Compact/Fanless Computers

Product Selection Guide

x86 Computers 24-2
RISC Computers 24-4

X86 Computers

V2401/2402 Series: x86 ready-to-run embedded computers with Intel Atom N270, VGA, DVI, LVDS, audio, 2 LANs, 12 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CompactFlash. 24-6
V2422 Series: x86 ready-to-run embedded computers with Intel Atom N270, VGA, DVI-I, audio, 2 Gigabit LANs, 4 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CompactFlash, 2 peripheral expansion slots. 24-10
V2101 Series: x86 ready-to-run embedded computers with Intel Atom Z510PT, VGA, LVDS, audio, 2 LANs, 2 serial ports, 3 DIs, 3 DOs, 4 USB 2.0 ports, SD 24-14

RISC Computers

UC-8410/8416/8418 Series: RISC ready-to-run embedded computers with 8 serial ports, 3 LANs, DIO, 8 switch ports, 2 CAN ports, USB, CompactFlash 24-18
UC-8430 Series: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, CompactFlash, dual VGA, audio, 6 USB 24-22
UC-7410-LX Plus: RISC-based ready-to-run computer with 8 serial ports, dual LANs, USB 24-25
UC-7101/7110/7112 Series: RISC ready-to-run embedded computers with 1 or 2 serial ports, dual LANs, SD. . . 24-28
UC-7122/7124 Series: RISC ready-to-run embedded computers with dual LANs, 2 or 4 serial ports, SD, USB. . . 24-32
IA260 Series: RISC-embedded computers with 4 serial ports, dual LANs, VGA, DIO, CompactFlash, USB 24-35
IA240 Series: RISC-embedded computers with 4 serial ports, 4 DI and 4 DO channels, dual LANs, PCMCIA, SD. . . 24-38

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Compact/Fanless Computers

x86 Computers

	V2101-T-CE	V2101-T-XPE	V2101-T-LX	V2401-CE	V2401-XPE	V2401-LX
Computer						
CPU Speed	1.1 GHz	1.1 GHz	1.1 GHz	1.6 GHz	1.6 GHz	1.6 GHz
OS (pre-installed)	WinCE 6.0	Windows Embedded Standard 2009	Linux	WinCE 6.0	Window Embedded Standard 2009	Linux
FSB	400 MHz	400 MHz	400 MHz	533 MHz	533 MHz	533 MHz
Flash	–	–	–	–	–	–
System Memory	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)
USB Ports	4 (USB 2.0)	4 (USB 2.0)	4 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)
Digital I/O	3 DIs, 3 DOs	3 DIs, 3 DOs	3 DIs, 3 DOs	4 DIs, 4 DOs	4 DIs, 4 DOs	4 DIs, 4 DOs
Storage						
Built-in	2 GB	2 GB	2 GB	2 GB (DOM)	2 GB (DOM)	2 GB (DOM)
CompactFlash Socket	✓ (for storing OS)	✓ (for storing OS)	✓ (for storing OS)	✓	✓	✓
SD Slot	✓	✓	–	–	–	–
HDD Support	–	–	–	✓	✓	✓
Other Peripherals						
KB/MS	–	–	–	1 PS/2 interface supporting standard PS/2 keyboard and mouse through Y-type cable		
Audio	AC97 audio, with line-in/out interface			HD audio, with line-in/out interface		
Display						
Graphics Controller	✓	✓	✓	✓	✓	✓
VGA Output	✓	✓	✓	✓	✓	✓
DVI Output	–	–	–	✓	✓	✓
LVDS Output	✓	✓	✓	✓	✓	✓
LAN Interface						
10/100/1000 Mbps Ethernet Ports	2	2	2	2	2	2
10/100 Mbps Ethernet Port	–	–	–	–	–	–
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV	1.5 kV
Serial Interface						
RS-232 Ports	–	–	–	8 (68-pin VHDC)	8 (68-pin VHDC)	8 (68-pin VHDC)
RS-485	–	–	–	–	–	–
RS-232/422/485 Ports	2 (DB9-M)	2 (DB9-M)	2 (DB9-M)	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)
ESD Protection	2 kV	2 kV	2 kV	4 kV	4 kV	4 kV
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark					
Flow Control	RTS/CTS, XON/XOFF			RTS/CTS, XON/XOFF, ADDC®		
Baudrate	50 bps to 115.2 Kbps			50 bps to 921.6 Kbps (non-standard baudrates supported)		
LEDs						
System	Power, Storage					
LAN	100M, 1000M	100M, 1000M	100M, 1000M	100M, 1000M	100M, 1000M	100M, 1000M
Serial	Tx, Rx	Tx, Rx	Tx, Rx	Tx, Rx	Tx, Rx	Tx, Rx
Physical Characteristics						
Housing	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Weight	940 g	940 g	940 g	2.1 kg	2.1 kg	2.1 kg
Dimensions	150 x 49 x 125 mm			250 x 57 x 152 mm		
Mounting	DIN-Rail, wall, VESA					
Environmental Limits						
Operating Temperature	-40 to 85°C			-10 to 60°C		
Storage Temperature	-40 to 85°C					
Ambient Relative Humidity	5 to 95% RH					
Anti Vibration/Shock	2g/20g			5g/50g		
Regulatory Approvals						
EMC	CE (EN55022 Class A, EN61000-3-2 Class D, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A), CCC (GB9254, GB 17625.1)					
Safety	UL/cUL (UL508, UL609500-1, CSA C22.2 No. 60950-1-03), LVD, CCC (GB4943)					
Green Product	RoHS, cROHS, WEEE	RoHS, cROHS, WEEE				
Reliability						
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓
Warranty	3 years (see www.moxa.com/warranty)					

x86 Computers

	V2402-CE	V2402-XPE	V2402-LX	V2422-LX V2422-XPE
Computer				
CPU Speed	1.6 GHz	1.6 GHz	1.6 GHz	1.6 GHz
OS (pre-installed)	WinCE 6.0	Windows Embedded Standard 2009	Linux	WinXPE Emb. or Linux
FSB	533 MHz	533 MHz	533 MHz	533 MHz
Flash	–	–	–	–
System Memory	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)	1 GB (2 GB max.)
USB Ports	6 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)
Digital I/O	4 DIs, 4 DOs	4 DIs, 4 DOs	4 DIs, 4 DOs	4 DIs, 4 DOs
Storage				
Built-in	2 GB (DOM)	2 GB (DOM)	2 GB (DOM)	2 GB (DOM)
CompactFlash Socket	✓	✓	✓	✓
SD Slot	–	–	–	–
HDD Support	✓	✓	✓	✓
Other Peripherals				
KB/MS	1 PS/2 interface supporting standard PS/2 keyboard and mouse through Y-type cable			
Audio	HD audio, with line-in/out interface			
Display				
Graphics Controller	✓	✓	✓	✓
VGA Output	✓	✓	✓	✓
DVI Output	✓	✓	✓	✓
LVDS Output	–	–	–	–
LAN Interface				
10/100/1000 Mbps Ethernet Ports	2	2	2	2
10/100 Mbps Ethernet Port				
Magnetic Isolation Protection	1.5 kV	1.5 kV	1.5 kV	1.5 kV
Serial Interface				
RS-232 Ports	–	–	–	–
RS-485	–	–	–	–
RS-232/422/485 Ports	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)
ESD Protection	4 kV	4 kV	4 kV	4 kV
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark			
Flow Control	RTS/CTS, XON/XOFF, ADDC®			
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported)			
LEDs				
System				
LAN	100M, 1000M	100M, 1000M	100M, 1000M	100M, 1000M
Serial	Tx, Rx	Tx, Rx	Tx, Rx	Tx, Rx
Physical Characteristics				
Housing	Aluminum	Aluminum	Aluminum	Aluminum
Weight	2 kg	2 kg	2 kg	2 kg
Dimensions	250 x 57 x 152 mm			154 x 250 x 86 mm
Mounting	DIN-Rail, wall, VESA			Wall
Environmental Limits				
Operating Temperature	-10 to 60°C			
Storage Temperature	-40 to 85°C			-20 to 80°C
Ambient Relative Humidity	5 to 95% RH			
Anti Vibration/Shock	5g/50g			
Regulatory Approvals				
EMC	CE (EN55022 Class A, EN61000-3-2 Class D, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A), CCC (GB9254, GB 17625.1)			EN 55022 Class A, EN 61000-3-2 Class D, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A, e-Mark (e4)
Safety	UL/cUL (UL508, UL609500-1, CSA C22.2 No. 60950-1-03), LVD, CCC (GB4943)			UL 508, UL 60950-1, CSA C22.2 No. 60950-1-07, EN 60950-1, CCC (GB9254, GB17625.1)
Green Product	RoHS, cROHS, WEEE			
Reliability				
Buzzer, RTC, WDT	✓	✓	✓	✓
Warranty	3 years (see www.moxa.com/warranty)			

RISC Computers

	UC-8410-LX UC-8410-T-LX	UC-8410-CE UC-8410-T-CE	UC-8416-LX UC-8416-T-LX	UC-8416-CE UC-8416-T-CE	UC-8418-LX UC-8418-T-LX	UC-8418-CE UC-8418-T-CE	UC-8430-LX UC-8418-T-LX	UC-8430-CE UC-8430-T-CE	UC-7410-LX Plus
Computer									
CPU Speed	533 MHz	533 MHz	533 MHz	533 MHz	533 MHz	533 MHz	533 MHz	533 MHz	533 MHz
OS (pre-installed)	Linux	Windows CE 6.0	Linux	Windows CE 6.0	Linux	Windows CE 6.0	Linux	Windows CE 6.0	Linux
DRAM	256 MB	256 MB	256 MB	256 MB	256 MB	256 MB	256 MB	256 MB	128 MB
SRAM	256 KB	256 KB	256 KB	256 KB	256 KB	256 KB	256 KB	256 KB	–
FSB	–	–	–	–	–	–	–	–	–
Flash	16 MB (OS); 32 MB (data)	16 MB (OS); 32 MB (data)	16 MB (OS); 32 MB (data)	16 MB (OS); 32 MB (data)	16 MB (OS); 32 MB (data)	16 MB (OS); 32 MB (data)	32 MB (OS); 32 MB (data)	32 MB (OS); 32 MB (data)	32 MB
System Memory	–	–	–	–	–	–	–	–	–
PCMCIA	–	–	–	–	–	–	–	–	–
Expansion Bus	–	–	–	–	–	–	–	–	–
USB Ports	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	6 (USB 2.0)	6 (USB 2.0)	1 (USB 1.1)
Digital I/O	4 DIs, 4 DOs	4 DIs, 4 DOs	4 DIs, 4 DOs	4 DIs, 4 DOs	12 DIs, 12 DOs	12 DIs, 12 DOs	4 DIs, 4 DOs	4 DIs, 4 DOs	–
Storage									
Built-in	–	–	–	–	–	–	–	–	–
CompactFlash Socket	✓	✓	✓	✓	✓	✓	✓	✓	–
SD Slot	–	–	–	–	–	–	–	–	–
Display									
Mini Screen with Push Buttons	–	–	–	–	–	–	–	–	✓
LAN Interface									
10/100 Mbps Ethernet Ports	3	3	3	3	3	3	3	3	2
Switch Ports	–	–	8	8	–	–	–	–	–
Magnetic Isolation Protection	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV
Serial Interface									
RS-232/422/485 Ports	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)	8 (RJ45)
ESD Protection	15 KV	15 KV	15 KV	15 KV	15 KV	15 KV	15 KV	15 KV	15 KV
Console Port	✓	✓	✓	✓	✓	✓	✓	✓	✓
Serial Communication Parameters	Data Bits: 5, 6, 7, 8; Stop Bits: 1, 1.5, 2; Parity: None, Even, Odd, Space, Mark								
Flow Control	RTS/CTS, XON/XOFF, ADDC®								
Baudrate	50 bps to 921.6 Kbps (non-standard baudrates supported)								
CANbus	–	–	–	–	2 (DB9-M)	2 (DB9-M)	–	–	–
LEDs									
System	Power, Ready, Storage, Battery								OS Ready, Console
LAN	10M, 100M								
Serial	TxD, RxD								
Physical Characteristics									
Housing	SECC sheet metal (1 mm)								
Weight	850 g	850 g	930 g	930 g	1 kg	1 kg	1 kg	1 kg	810 g
Dimensions	200 x 37 x 120 mm	200 x 37 x 120 mm	200 x 56 x 120 mm						197 x 44 x 125 mm
Mounting	DIN-Rail, wall								
Environmental Limits									
Operating Temperature	-10 to 60°C or -40 to 75°C								-10 to 60°C
Storage Temperature	-20 to 80°C or -40 to 85°C								-20 to 80°C
Ambient Relative Humidity	5 to 95% RH								
Anti Vibration/ Shock	1g/5g	1g/5g	1g/5g	1g/5g	1g/5g	1g/5g	1g/5g	1g/5g	1g/5g
Regulatory Approvals									
EMC	CE (EN55022 Class B, EN55024-4-2, EN55024-4-3, EN55024-4-4), FCC (Part 15 Subpart B, Class B)								UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1
Safety	UL/cUL (UL60950-1), CCC, LVD								UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1
Green Product	RoHS, CRoHS, WEEE								
Reliability									
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓	✓	✓	✓
Warranty	5 years (see www.moxa.com/warranty)								

RISC Computers

	IA260-LX IA260-T-LX	IA260-CE IA260-T-CE	IA261-I-LX IA261-I-T-LX	IA261-I-CE IA261-I-T-CE	IA262-I-LX IA262-I-T-LX	IA262-I-CE IA262-I-T-CE	IA240-LX IA240-T-LX
Computer							
CPU Speed	200 MHz	200 MHz	200 MHz	200 MHz	200 MHz	200 MHz	192 MHz
OS (pre-installed)	Linux	WinCE 6.0	Linux	WinCE 6.0	Linux	WinCE 6.0	Embedded Linux
DRAM	128 MB (256 MB max.)						64 MB
Flash	32 MB (64 MB max.)		32 MB	32 MB	32 MB	32 MB	32 MB
PCMCIA	–	–	–	–	–	–	–
USB Ports	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	2 (USB 2.0)	1 (USB 2.0)
Digital I/O	8 DIs, 8 DOs	8 DIs, 8 DOs	8 DIs, 8 DOs	8 DIs, 8 DOs	8 DIs, 8 DOs	8 DIs, 8 DOs	4 DIs, 4 DOs
AI/Thermocouples	–	–	–	–	–	–	–
Storage							
CompactFlash Socket	✓	✓	✓	✓	✓	✓	–
SD Slot	–	–	–	–	–	–	✓
Display							
Graphics Controller	✓	✓	✓	✓	✓	✓	–
LAN Interface							
10/100 Mbps Ethernet Ports	2	2	2	2	2	2	2
Magnetic Isolation Protection	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV
Serial Interface							
RS-232/422/485 Ports	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)	4 (DB9-M)	2 (DB9-M)	2 (DB9-M)	4 (RJ45)
ESD Protection	4 KV	4 KV	15 KV	15 KV	15 KV	15 KV	15 KV
Digital Isolation	–	–	2 KV	2 KV	2 KV	2 KV	–
Console Port	✓	✓	✓	✓	✓	✓	✓
Serial Communication Parameters							
Flow Control							
Baudrate							
CANbus	–	–	–	–	2 (DB9-M)	2 (DB9-M)	–
LEDs							
System							
LAN	10M, 100M	10M, 100M	10M, 100M	10M, 100M	10M, 100M	10M, 100M	10M, 100M
Serial	TxD, RxD	TxD, RxD	TxD, RxD	TxD, RxD	TxD, RxD	TxD, RxD	TxD, RxD
Physical Characteristics							
Housing							SECC sheet metal (1 mm)
Weight	1 kg	1 kg	950 g	950 g	950 g	950 g	430 g
Dimensions	52 x 113 x 162 mm	52 x 113 x 162 mm	60 x 115 x 152 mm	60 x 115 x 152 mm	60 x 115 x 152 mm	60 x 115 x 152 mm	60 x 137 x 100 mm
Mounting	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall	DIN-Rail, wall
Environmental Limits							
Operating Temperature	-10 to 60°C or -40 to 75°C						
Operating Humidity	5 to 95% RH	5 to 95% RH	5 to 95% RH	5 to 95% RH	5 to 95% RH	5 to 95% RH	5 to 95% RH
Storage Temperature	-20 to 80°C or -40 to 85°C						
Regulatory Approvals							
EMC	CE (EN55022 Class A, EN61000-3-2 Class A, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A), CCC (GB9254, GB 17625.1)						CE (EN55022 Class A, EN61000-3-2 Class A, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A)
Safety	UL/cUL (UL60950-1, CSA C22.2 No. 60950-1-03), LVD (EN60950-1), CCC (GB4943)						UL/cUL (UL60950-1, CSA C22.2 No. 60950-1-03), TUV (EN60950-1)
Green Product							
Reliability							
Buzzer, RTC, WDT	✓	✓	✓	✓	✓	✓	✓
Warranty							

V2401/2402 Series

x86 ready-to-run embedded computers with Intel Atom N270, VGA, DVI, LVDS, audio, 2 LANs, 12 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CompactFlash

- Intel Atom N270 1.6 GHz processor
- DDR2 SO-DIMM socket supporting DDR2 533 up to 2 GB (max.)
- Dual independent displays (VGA, DVI, LVDS)
- 2 Gigabit Ethernet ports
- 4 RS-232/422/485 serial ports (non-standard baudrates supported)
- 8 RS-232 serial ports
- 6 USB 2.0 ports for high speed peripherals
- 4 DIs, 4 DOs
- CompactFlash socket for storage expansion
- Ready-to-run Embedded Linux, Windows CE 6.0, or Windows Embedded Standard 2009 platform
- -40° to 70°C operating temperature for harsh environment (V2402-T models only)

e Mark

Overview

The V2401/2402 Series embedded computers are based on the Intel Atom N270 x86 processor, and feature 4 RS-232/422/485 serial ports, 8 RS-232 serial ports, dual Gigabit LAN ports, 6 USB 2.0 hosts, and a CompactFlash socket. The V2401 computer provides VGA, DVI, and LVDS outputs, and the V2402 computer provides both VGA and DVI outputs, making them particularly well-suited for industrial applications such as SCADA and factory automation.

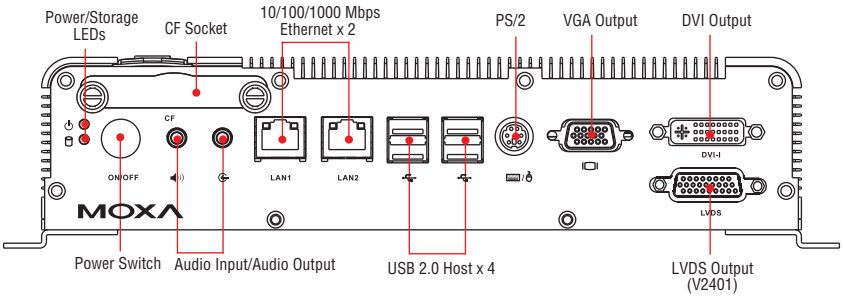
The V2401 and V2402 come with 4 RS-232/422/485 serial ports, and the V2401 has an additional 8 RS-232 ports, making them ideal for connecting a wide range of serial devices, and the dual 10/100/1000 Mbps Ethernet ports offer a reliable solution for network redundancy, promising continuous operation for data communication and management. As an added convenience, the V2401/2402 computers have 4 DIs, and 4 DOs for connecting digital input/output devices. In addition, the CompactFlash and USB sockets provide the V2401/2402 computers with the reliability needed for industrial applications that require data buffering and storage expansion.

Pre-installed with Linux, Windows CE 6.0, or Windows Embedded Standard 2009, the V2401/2402 Series provides programmers with a friendly environment for developing sophisticated, bug-free application software at a low cost.

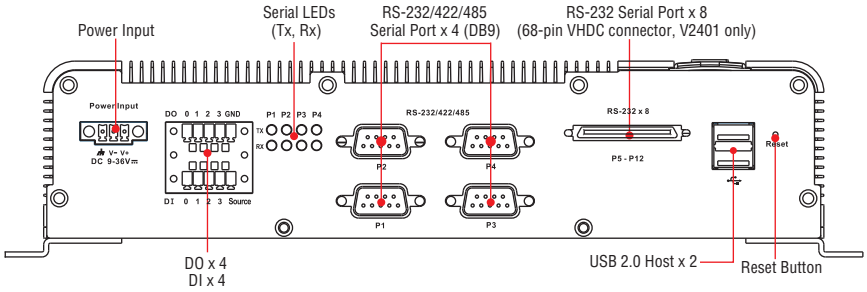
In addition, the V2402 series also offers -40 to 70°C wide temperature models for harsh environments.

Appearance

Front View

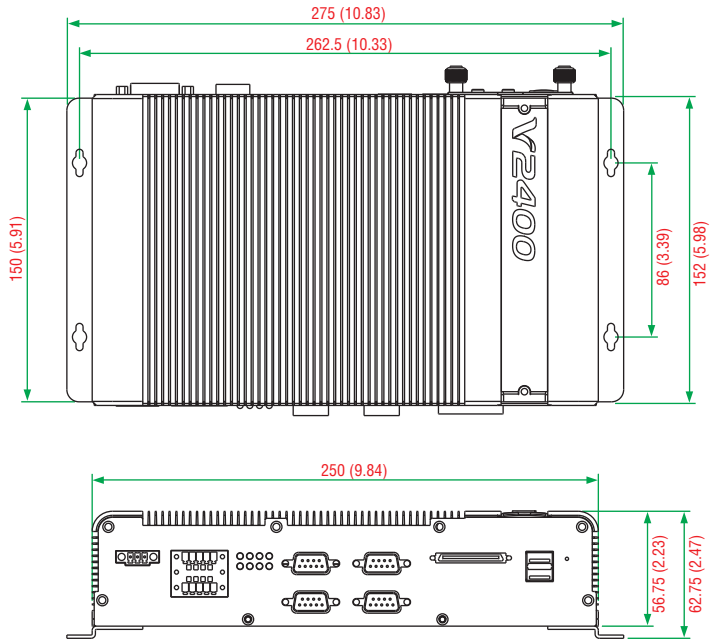


Rear View


Power Input
Serial LEDs (Tx, Rx)
RS-232/422/485 Serial Port x 4 (DB9)
RS-232 Serial Port x 8 (68-pin VHDC connector, V2401 only)
DO x 4
DI x 4
USB 2.0 Host x 2
Reset Button

Dimensions

Unit: mm (inch)



Hardware Specifications

Computer

CPU: Intel Atom N270 1.6 GHz processor
OS (pre-installed): Linux, Windows CE 6.0 or Windows Embedded Standard 2009
System Chipset: Intel 945GSE + ICH7-M
BIOS: 8 Mbit Flash BIOS, SPI type, ACPI function supported
FSB: 400/533 MHz
System Memory: 2 GB capacity, 1 GB pre-installed: 1 x 2 GB DDR2-533 200 pin SO-DIMM SDRAM slot
USB: USB 2.0 compliant hosts x 6, type A connector, supports system boot up

Storage

Built-in: 2 GB onboard industrial DOM to store OS
Storage Expansion: CompactFlash socket for CF card expansion, supporting CF Type-I/II socket with DMA mode
HDD Support: 1 SATA-II connector for HDD expansion

Other Peripherals

KB/MS: 1 PS/2 interface supporting standard PS/2 keyboard and mouse through Y-type cable
Audio: HD audio, with line-in and line-out interface

Display

Graphics Controller: Intel Gen 2.5 Integrated Graphics Engine, 250 MHz core render clock and 200 MHz core display clock at 1.05-V core voltage
VGA Interface: DB15 female connector
LVDS Interface: Onboard HIROSE DF13-40DP-1.25 V connector (V2401 only)
DVI Interface: DVI-connector (chrontel CH7307 SDVO to DVI transmitter)

Ethernet Interface

LAN: 2 auto-sensing 10/100/1000 Mbps ports (RJ45)

Serial Interface

Serial Standards:
• V2401/2402: 4 RS-232/422/485 ports*, software selectable (DB9 male connector)
• V2401 only: 8 RS-232 ports (68-pin VHDC connector)
*COM1's pin 9 signal can be set by jumper as N/C (default), +5 V, or +12 V
ESD Protection: 4 kV for all signals

Serial Communication Parameters

Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485
Baudrate: 50 bps to 921.6 kbps (non-standard baudrates supported; see user's manual for details)

Serial Signals
RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

Digital Input
Input Channels: 4, source type
Input Voltage: 0 to 30 VDC at 25 Hz
Digital Input Levels for Dry Contacts:
• Logic level 0: Close to GND
• Logic level 1: Open
Digital Input Levels for Wet Contacts:
• Logic level 0: +3 V max.
• Logic level 1: +10 V to +30 V (Source to DI)
Isolation: 3 kV optical

Digital Output
Output Channels: 4, sink type
Output Current: Max. 200 mA per channel
On-state Voltage: 24 VDC nominal, open collector to 30 VDC
Connector Type: 10-pin screw terminal block (4 DI points, 4 DO points, DI Source, GND)
Isolation: 3 kV optical isolation

LEDs
System: Power, Storage
LAN: 100M/Link x 2, 1000M/Link x 2 (on connector)

Switches and Buttons
Power Switch: on/off (front panel)
Reset Button: For warm reboot (rear panel)

Physical Characteristics
Housing: Aluminum
Weight:
• V2401: 2.1 kg
• V2402: 2 kg
Dimensions:
Without ears: 250 x 57 x 152 mm (9.84 x 2.24 x 5.98 in)
With ears: 275 x 63 x 152 mm (10.83 x 2.48 x 5.98 in)
Mounting: DIN rail, wall, VESA

Environmental Limits
Operating Temperature:
• Standard models: -10 to 60°C (14 to 140°F)
• Wide temp. models : -40 to 70°C (-40 to 158°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: 5 g rms @ IEC-68-2-34, random wave, 5-500 Hz, 1 hr/axis
Anti-shock: 50 g @ IEC-68-2-27, half sine wave, 11 ms

Power Requirements
Input Voltage: 9 to 36 VDC (3-pin terminal block for V+, V-, SG)
Power Consumption: 26 W (without LVDS output)
2.9 A @ 9 VDC
1.08 A @ 24 VDC
720 mA @ 36 VDC

Standards and Certifications
Safety: UL 508, UL 60950-1, CSA C22.2 No. 60950-1-07, EN 60950-1, CCC (GB9254, GB17625.1)
EMC: EN 55022 Class A, EN 61000-3-2 Class D, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A
Wheeled Vehicles: e-Mark (e4)
Green Product: RoHS, CRoHS, WEEE

Reliability
Automatic Reboot Trigger: Built-in WDT (watchdog timer) supporting 1-255 level time interval system reset, software programmable
MTBF (mean time between failures):
V2401: 238,762 hrs
V2402: 228,172 hrs

Warranty
Warranty Period: 3 years
Details: See www.moxa.com/warranty

Software Specifications

Linux
OS: Linux 2.6.26, Debian Lenny 5.0
File System: EXT2
Internet Protocol Suite: TCP, UDP, IPv4, SNMPv1/v2c/v3, ICMP, ARP, HTTP, CHAP, PAP, SSH 1.0/2.0, SSL, DHCP, NTP, NFS, Telnet, FTP, TFTP, PPP, PPPoE
Internet Security: OpenVPN, iptables firewall
Web Server (Apache): Allows you to create and manage web sites; supports PHP and XML
Terminal Server (SSH): Provides secure encrypted communications between two un-trusted hosts over an insecure network
Dial-up Networking: PPP Daemon for Linux that allows Unix machines to connect to the Internet through dialup lines, using the PPP protocol, as a PPP server or client. Works with 'chat', 'dip', and 'diald', among (many) others. Supports IP, TCP, UDP, and (for Linux) IPX (Novell).
File Server: Enables remote clients to access files and other resources over the network
Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)
Application Development Software:
• Moxa API Library (Watchdog timer, Moxa serial I/O control, Moxa DI/DO API)
• GNU C/C++ compiler
• GNU C library
• Perl

Windows XP Embedded
OS: Windows Embedded Standard 2009 SP3
File System: NTFS
Internet Protocol Suite: DHCP, DNS, FTP, HTTP, SNTP, NTP, Telnet, SMTP, SNMPv2, TCP, UDP, IPv4, ICMP, IGMP, IPsec, TAPI, ICS, PPP, CHAP, EAP, PPPoE, PPTP, NetBIOS
Web Server (IIS): Allows users to create and manage websites
Silverlight 2.0: A free runtime that powers rich application experiences and delivers high quality, interactive video across multiple platforms and browsers, using the .NET framework
Remote Registry Service: Enables remote users to modify registry settings on this computer
Remote Desktop: The Terminal Server Remote Desktop component provides remote access for the desktop of a computer running Terminal Services
Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)
Enhanced Writer Filter: Redirect disk write operations to volatile (RAM) or non-volatile (disk) storage
File Based Write Filter: The File Based Write Filter (FBWF) component redirects all write requests directed at protected volumes to the overlay cache, which records and displays the changes while preserving the protected status of the target volume.
Application Development Software:
• Moxa API Library
• Microsoft .Net Framework 3.5 with SP1
• Active Directory Service Interface (ADSI) Core
• Active Template Library (ATL), ASP.NET 2.0
• Common Control Libraries
• Common File Dialogs
• Direct3D, DirectPlay, DirectShow, and Direct show filters

• Mapi32 Libraries
• Message Queuing (MSMQ) Core
• Microsoft Visual C++ Run Time Libraries
• Power Management dynamic-link library
• RPC
• Windows API, Script Engines, and WMI

Windows Embedded CE 6.0

OS: Windows Embedded CE 6.0 R3
File System: FAT (for on-board flash)
Internet Protocol Suite: TCP, UDP, IPv4, SNMPv2, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SNTP, SMTP, Telnet, FTP, PPP
Web Server (WinCE IIS): Supports ASP, ISAPI Secure Socket Layer (SSL 2/3) and Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration ISAPI Extensions
Dial-up Networking: Supports RAS client API and PPP, Extensible Authentication Protocol (EAP), and RAS scripting
File Server: Enables remote clients to access files and other resources over the network
Watchdog: Features a hardware function to trigger system reset in a user specified time interval. (Moxa API provided)
Application Development Software:
• Moxa WinCE 6.0 SDK
• Moxa API Library
• C Libraries and Run-times
• Component Services (COM and DCOM)
• Microsoft® .NET Compact Framework 2.0
• XML, including DOM, XQL, XPATH, XSLT, SAX, SAX2
• SOAP Toolkit Client
• Winsock 2.2

Ordering Information

Available Models

V2401-CE: x86 ready-to-run embedded computer with Intel Atom N270, VGA, LVDS, DVI, Audio, 2 LANs, 12 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CF, WinCE 6.0
V2401-XPE: x86 ready-to-run embedded computer with Intel Atom N270, VGA, LVDS, DVI, Audio, 2 LANs, 12 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CF, Windows Embedded Standard 2009
V2401-LX: x86 ready-to-run embedded computer with Intel Atom N270, VGA, LVDS, DVI, Audio, 2 LANs, 12 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CF, Linux 2.6
V2402-CE: x86 ready-to-run embedded computer with Intel Atom N270, VGA, DVI, Audio, 2 LANs, 4 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CF, WinCE 6.0
V2402-XPE: x86 ready-to-run embedded computer with Intel Atom N270, VGA, DVI, Audio, 2 LANs, 4 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CF, Windows Embedded Standard 2009, -10 to 60°C operating temperature
V2402-LX: x86 ready-to-run embedded computer with Intel Atom N270, VGA, DVI, Audio, 2 LANs, 4 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CF, Linux 2.6, -10 to 60°C operating temperature
V2402-T-XPE: x86 ready-to-run embedded computer with Intel Atom N270, VGA, DVI, Audio, 2 LANs, 4 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CF, Windows Embedded Standard 2009, -40 to 70°C operating temperature
V2402-T-LX: x86 ready-to-run embedded computer with Intel Atom N270, VGA, DVI, Audio, 2 LANs, 4 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CF, Linux 2.6, -40 to 70°C operating temperature

Optional Accessories (can be purchased separately)

CBL-M68M9x8-100: 8-port RS-232 cable with VHDC connector
PWR-24250-DT-S1: Power adaptor
PWC-C7US-2B-183: Power cord with 2-pin connector, USA plug
PWC-C7EU-2B-183: Power cord with 2-pin connector, Euro plug
PWC-C7UK-2B-183: Power cord with 2-pin connector, British plug
PWC-C7AU-2B-183: Power cord with 2-pin connector, Australia plug
PWC-C7CN-2B-183: Power cord with 2-pin connector, China plug
FK-75125-01: Hard disk installation package (for SSD)
DK-DC50131-01: DIN-Rail mounting kit

Package Checklist

- V2401 or V2402 embedded computer
- Terminal block to power jack converter
- PS2 to KB/MS Y-type cable
- Wall mounting kit
- Documentation and software CD or DVD
- Quick installation guide (printed)
- Warranty card

V2422 Series

x86 ready-to-run embedded computers with Intel Atom N270, VGA, DVI-I, audio, 2 Gigabit LANs, 4 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CompactFlash, 2 peripheral expansion slots

- Intel Atom N270 1.6 GHz processor
- DDR2 SO-DIMM socket supporting DDR2 533 up to 2 GB (max.)
- Dual independent displays (VGA + DVI-I)
- 2 10/100/1000 Mbps Ethernet ports
- 4 RS-232/422/485 serial ports (non-standard baudrates supported)
- 6 USB 2.0 ports for high speed peripherals
- 4 DIs, 4 DOs
- CompactFlash socket for storage expansion
- 1 SATA-II connector for hard disk drive expansion
- Ready-to-run Embedded Linux, or Windows Embedded Standard 2009 platform

e Mark

Overview

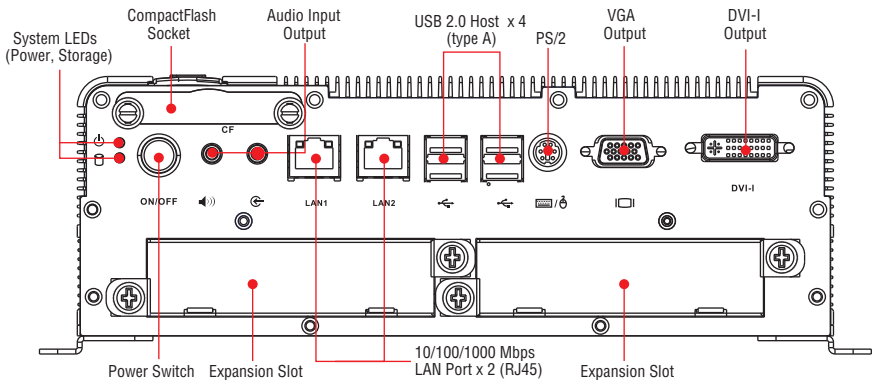
The V2422 Series embedded computers are based on the Intel Atom N270 x86 processor, and feature 4 RS-232/422/485 serial ports, dual Gigabit LAN ports, and 6 USB 2.0 hosts. In addition, the V2422 computers provide VGA and DVI-I outputs, and are EN 50155 certified, making them particularly well-suited for railway and industrial applications.

The dual 10/100/1000 Mbps Ethernet ports offer a reliable solution for network redundancy, promising continuous operation for data communication and management. As an added convenience, the V2422 computers have 4 DIs and 4 DOs for connecting digital input/output devices. In addition, the CompactFlash socket, SATA connector, and USB sockets provide the V2422 computers with the reliability needed for industrial applications that require data buffering and storage expansion. Moreover, the V2422 computers come with 2 peripheral expansion slots for inserting different communication modules, such as a 2-port CAN module, an HSDPA, GPS, WLAN module, an 8+8 port digital input/output module, a 2-port serial module, a mini PCI expansion module, and a PCI Express module, providing greater flexibility for setting up different industrial applications at field sites.

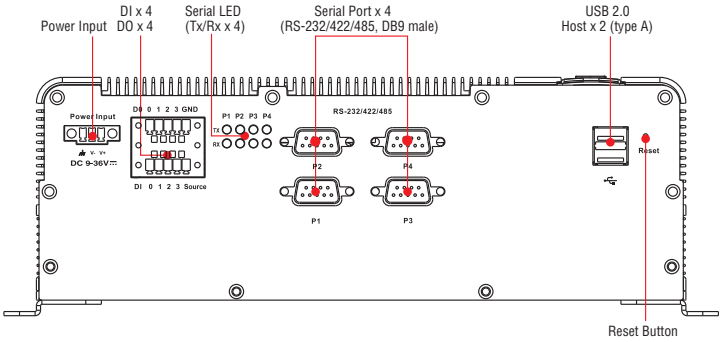
Pre-installed with Linux or Windows Embedded Standard 2009, the V2422 Series provides programmers with a friendly environment for developing sophisticated, bug-free application software at a low cost.

Appearance

Front View

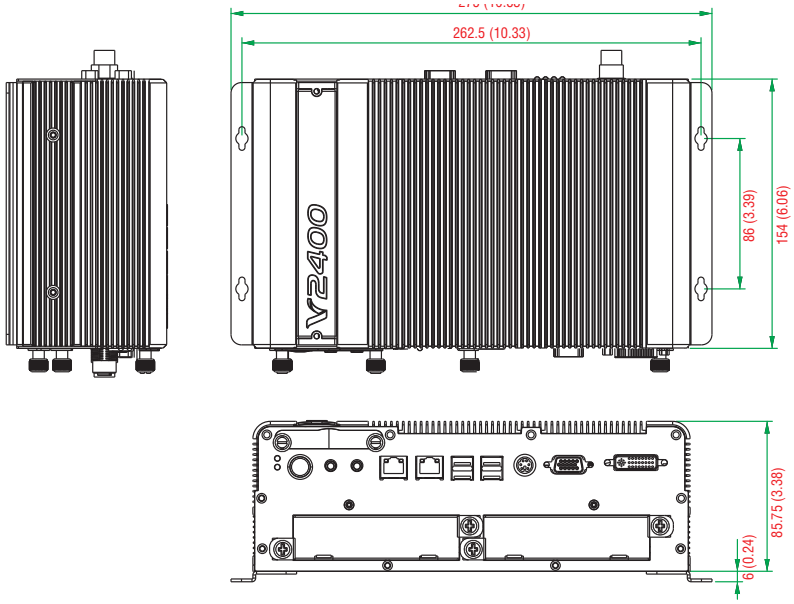


Rear View



Dimensions

Unit: mm (inch)



Hardware Specifications

Computer

CPU: Intel Atom N270 1.6 GHz processor
OS (pre-installed): Linux or Windows Embedded Standard 2009
System Chipset: Intel 945GSE + ICH7-M
BIOS: 8 Mbit Flash BIOS, PLCC type, ACPI function supported
FSB: 533 MHz
System Memory: 2 GB capacity, 1 GB pre-installed: 1 slot of 2 GB DDR2-533 200 pin SO-DIMM SDRAM
Expansion Bus: PCI interface reserved
USB: USB 2.0 compliant hosts, type A connector x 6, supports system boot up

Storage

Built-in: 2 GB onboard industrial DOM to store OS
Storage Expansion: CompactFlash socket for CF card expansion, supporting CF Type-I/II
HDD Support: 1 SATA-II connector for HDD expansion

Other Peripherals

KB/MS: 1 PS/2 interface supporting standard PS/2 keyboard and mouse through Y-type cable
Audio: Line-in, line-out interface

Display

Graphics Controller: Intel Gen 3.5 Integrated Graphics Engine, 250 MHz core render clock and 200 MHz core display clock at 1.05-V core voltage
VGA Interface: DB15 female connector, up to 2048 x 1536 resolution
DVI Interface: DVI-I connector (chrontel CH7307 SDVO to DVI transmitter), up to 1600 x 1200 resolution

Ethernet Interface

LAN: 2 auto-sensing 10/100/1000 Mbps ports (RJ45)
Magnetic Isolation Protection: 1.5 kV

Serial Interface

Serial Standards:
4 RS-232/422/485 ports*, software selectable (DB9 male)
*COM1's pin 9 signal can be set as N/C (default), +5 V, or +12 V by jumper
ESD Protection: 8 kV for all signals

Serial Communication Parameters

Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485
Baudrate: 50 bps to 921.6 kbps (non-standard baudrates supported; see user's manual for details)

Serial Signals

RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

Digital Input

Input Channels: 4, source type
Input Voltage: 0 to 30 VDC at 25 Hz

Digital Input Levels for Dry Contacts:
• Logic level 0: Close to GND
• Logic level 1: Open
Digital Input Levels for Wet Contacts:
• Logic level 0: +3 V max.
• Logic level 1: +10 V to +30 V (Source to DI)
Isolation: 3 kV optical isolation

Digital Output

Output Channels: 4, sink type
Output Current: Max. 200 mA per channel
On-state Voltage: 24 VDC nominal, open collector to 30 VDC
Connector Type: 10-pin screw terminal block (4 DI points, 4 DO points, DI Source, GND)
Isolation: 3 kV optical isolation

LEDs

System: Power, Storage
LAN: 100M/Link x 2, 1000M/Link x 2
Serial: TX x 4, RX x 4

Switches and Buttons

Power Switch: on/off (front panel)
Reset Button: For warm reboot (rear panel)

Physical Characteristics

Housing: Aluminum
Weight: 4 kg
Dimensions:
Without ears: 154 x 250 x 86 mm (6.06 x 9.84 x 3.39 in)
With ears:154 x 275 x 92 mm (6.06 x 10.83 x 3.62 in)
Mounting: DIN rail, wall, VESA

Environmental Limits

Operating Temperature: -10 to 60°C (14 to 140°F)
Storage Temperature: -20 to 80°C (-4 to 176°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: 5 g rms @ IEC-68-2-34, random wave, 5-500 Hz, 1 hr/axis
Anti-shock: 50 g @ IEC-68-2-27, half sine wave, 11 ms

Power Requirements

Input Voltage: 9 to 36 VDC (3-pin terminal block for V+, V-, SG)
Power Consumption: 48 W
5.3 A @ 9 VDC
2 A @ 24 VDC
1.3 A @ 36 VDC

Standards and Certifications

Safety: UL 508, UL 60950-1, CSA C22.2 No. 60950-1-07, EN 60950-1, CCC (GB9254, GB17625.1)
EMC: EN 55022 Class A, EN 61000-3-2 Class D, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A
Wheeled Vehicles: e-Mark (e4)
Green Product: RoHS, CRoHS, WEEE

Reliability

Automatic Reboot Trigger: Built-in WDT (watchdog timer) supporting 1-255 level time interval system reset, software programmable
MTBF (mean time between failures): 144,114 hrs

Warranty

Warranty Period: 3 years
Details: See www.moxa.com/warranty

Software Specifications

Linux

OS: Linux 2.6.26, Debian Lenny 5.0
File System: EXT2
Internet Protocol Suite: TCP, UDP, IPv4, SNMPv1/v2c/v3, ICMP, ARP, HTTP, CHAP, PAP, SSH 1.0/2.0, SSL, DHCP, NTP, NFS, Telnet, FTP, TFTP, PPP, PPPoE
Internet Security: OpenVPN, iptables firewall
Web Server (Apache): Allows you to create and manage web sites; supports PHP and XML
Terminal Server (SSH): Provides secure encrypted communications between two un-trusted hosts over an insecure network
Dial-up Networking: PPP Daemon for Linux that allows Unix machines to connect to the Internet through dialup lines, using the PPP protocol, as a PPP server or client. Works with 'chat', 'dip', and 'diald', among (many) others. Supports IP, TCP, UDP, and (for Linux) IPX (Novell).
File Server: Enables remote clients to access files and other resources over the network
Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)
Application Development Software:
• Moxa API Library (Watchdog timer, Moxa serial I/O control)
• GNU C/C++ compiler
• GNU C library
• Perl

Windows XP Embedded

OS: Windows Embedded Standard 2009 SP3
File System: NTFS
Internet Protocol Suite: DHCP, DNS, FTP, HTTP, SNTP, NTP, Telnet, SMTP, SNMPv2, TCP, UDP, IPv4, ICMP, IGMP, IPsec, TAPI, ICS, PPP, CHAP, EAP, PPPoE, PPTP, NetBIOS
Web Server (IIS): Allows users to create and manage websites
Silverlight 2.0: A free runtime that powers rich application experiences and delivers high quality, interactive video across multiple platforms and browsers, using the .NET framework
Remote Registry Service: Enables remote users to modify registry settings on this computer
Remote Desktop: The Terminal Server Remote Desktop component provides remote access for the desktop of a computer running Terminal Services
Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)
Enhanced Writer Filter: Redirect disk write operations to volatile (RAM) or non-volatile (disk) storage
File Based Write Filter: The File Based Write Filter (FBWF) component redirects all write requests directed at protected volumes to the overlay cache, which records and displays the changes while preserving the protected status of the target volume.
Application Development Software:
• Moxa API Library
• Microsoft .Net Framework 3.5 with SP1
• Active Directory Service Interface (ADSI) Core
• Active Template Library (ATL), ASP.NET 2.0
• Common Control Libraries
• Common File Dialogs
• Direct3D, DirectPlay, DirectShow, and Direct show filters
• Mapi32 Libraries
• Message Queuing (MSMQ) Core
• Microsoft Visual C++ Run Time Libraries
• Power Management dynamic-link library
• RPC
• Windows API, Script Engines, and WMI

Ordering Information

Available Models

V2422-XPE: x86 ready-to-run embedded computer with Intel Atom N270, VGA, DVI-I, Audio, 2 LANs, 4 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CF, 2 peripheral expansion slots, Windows Embedded Standard 2009
V2422-LX: x86 ready-to-run embedded computer with Intel Atom N270, VGA, DVI-I, Audio, 2 LANs, 4 serial ports, 4 DIs, 4 DOs, 6 USB 2.0 ports, CF, 2 peripheral expansion slots, Linux 2.6

Expansion Modules (can be purchased separately)

EPM-3112: 2 isolated CAN ports, DB9 connector
EPM-3337: HSDPA, GPS, WLAN (11a/b/g/n)
EPM-3438: 8+8 DI/DO with 2 kV digital isolation protection, 2 KHz counter
EPM-3032: 2 isolated RS-232/422/485 ports with DB9 connectors
EPM-DK01: 1-slot mini PCI and mini PCIe expansion module
EPM-3552: 1 VGA or DVI-I display connector

Optional Accessories (can be purchased separately)

PWR-24250-DT-S1: Power adaptor
PWC-C7US-2B-183: Power cord with 2-pin connector, USA plug
PWC-C7EU-2B-183: Power cord with 2-pin connector, Euro plug
PWC-C7UK-2B-183: Power cord with 2-pin connector, British plug
PWC-C7AU-2B-183: Power cord with 2-pin connector, Australia plug
PWC-C7CN-2B-183: Power cord with 2-pin connector, China plug
FK-75125-01: Hard disk installation package (for SSD)
DK-DC50131-01: DIN-Rail mounting kit

Package Checklist

- V2422 embedded computer
- Terminal block to power jack converter
- Wall mounting kit
- PS2 to KB/MS Y-type cable
- Documentation and software CD or DVD
- Quick installation guide (printed)
- Warranty card

V2101 Series

Award-winning Product

TAIWAN EXCELLENCE 2010

x86 ready-to-run embedded computers with Intel Atom Z510PT, VGA, LVDS, audio, 2 LANs, 2 serial ports, 3 DIs, 3 DOs, 4 USB 2.0 ports, SD

- Intel Atom Z510PT 1.1 GHz processor, 400 MHz FSB
- DDR2 SODIMM socket supporting DDR2 400 up to 2 GB
- Dual Independent Displays (VGA+ LVDS)
- 2 Gigabit Ethernet ports
- 4 USB 2.0 ports for high speed peripherals
- 3 DIs, 3 DOs
- 2 RS-232/422/485 ports
- Built-in CompactFlash for storing OS
- LED indicators for power, storage
- Ready-to-run Embedded Linux, WinCE 6.0, or Windows Embedded Standard 2009 platform
- -40 to 85°C wide operating temperature models available

Overview

The V2101 embedded computers are based on the Intel Atom Z510PT x86 processor, and feature 2 serial ports, dual Gigabit LAN ports, 4 USB 2.0 hosts, and SD socket. The V2100 Series offers both VGA and LVDS outputs, making it particularly well-suited for industrial applications, such as SCADA and factory automation.

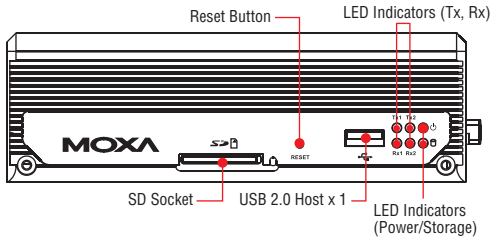
The V2101 computers' 2 serial ports make them ideal for connecting a wide range of serial devices, and the dual 10/100/1000 Mbps Ethernet ports offer a reliable solution for network redundancy, promising continuous operation for data communication and management. As an added convenience, the V2101 computers have 3 DIs and 3 DOs for connecting digital input/output devices. In addition, the SD and USB sockets provide the V2101 computers with the reliability needed for industrial applications that require data buffering and storage expansion.

Pre-installed with Linux, Windows CE 6.0, or Windows Embedded Standard 2009, the V2101 Series provides programmers with a friendly environment for developing sophisticated, bug-free application software at a lower cost.

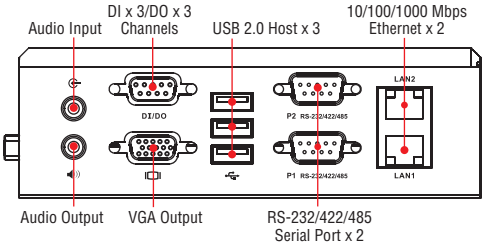
All V2101 models support a wide operating temperature range of -40 to 85°C for harsh industrial environments.

Appearance

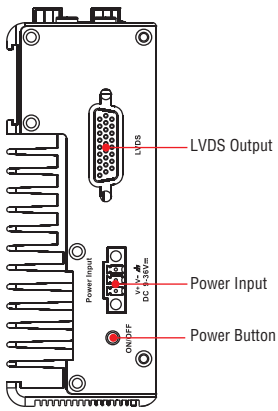
Front View



Rear View



Side View



Hardware Specifications

Computer
CPU: Intel Atom Z510PT 1.1 GHz processor
OS (pre-installed): Linux, Windows CE 6.0 or Windows Embedded Standard 2009
System Chipset: Intel US15WPT
BIOS: 8 Mbit Flash BIOS, ACPI function supported (XPe model only)
FSB: 400 MHz
System Memory: 2 GB capacity, 1 GB pre-installed: 1 x 2 GB DDR2-400 200 pin SO-DIMM SDRAM slot
USB: USB 2.0 compliant hosts x 4, type A connector, supports system boot up

Storage
Built-in: 2 GB CompactFlash to store OS
Storage Expansion: SD socket for storage expansion

Other Peripherals
Audio: AC97 audio, with line-in and line-out interface

Display
Graphics Controller: Intel Graphics Media Accelerator, 500 Graphics, for 2D and 3D graphics
Video: The Poulsbo XL SCH supports full hardware acceleration of video decode standards such as H.264, MPEG2, MPEG4, and WMV9.
SDVO: Chrontel CH7317 for VGA output (1280 x 1024 @ 85 Hz)
VGA Interface: DB15 female connector
LVDS Interface: 18-bit or 24-bit single channel LVDS (1366 x 768 @ 85 Hz)

Ethernet Interface
LAN: 2 auto-sensing 10/100/1000 Mbps ports (RJ45)

Serial Interface
Serial Standards: 2 RS-232/422/485 ports, software selectable (DB9 male)
ESD Protection: 2 kV for all signals

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF
Baudrate: 50 bps to 115.2 kbps

Serial Signals
RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

Digital Input
Input Channels: 3, source type
Input Voltage: 0 to 30 VDC at 5 KHz
Digital Input Levels for Dry Contacts:
• Logic level 0: Close to GND
• Logic level 1: Open
Digital Input Levels for Wet Contacts:
• Logic level 0: +3 V max.
• Logic level 1: +10 V to +30 V (COM to DI)
Connector Type: DB9 female

Digital Output
Output Channels: 3, sink type
Output Current: Max. 200 mA per channel
Output Voltage:
• Logic 0: 0-0.55 V
• Logic 1: 2.5-3.3 V
On-state Voltage: 24 VDC nominal, open collector to 30 V
Connector Type: DB9 female

LEDs
System: Power, Storage
LAN: 100M/Link x 2, 1000M/Link x 2 (on connector)
Serial: Tx, Rx

Switches and Buttons
Power Switch: on/off (side)
Reset Button: For warm reboot (front side)

Physical Characteristics
Housing: Aluminum
Weight: 940 g
Dimensions:
Without ears: 150 x 49 x 125 mm (5.91 x 1.93 x 4.92 in)
With ears: 178 x 52 x 125 mm (7.01 x 2.05 x 4.92 in)
Mounting: DIN rail, wall, VESA

Environmental Limits
Operating Temperature: -40 to 85°C (-40 to 185°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: 2 g rms @ IEC-68-2-34, random wave, 5-500 Hz, 1 hr per axis
Anti-shock: 20 g @ IEC-68-2-27, half sine wave, 11 ms

Power
Input Voltage: 9 to 36 VDC (3-pin terminal block for V+, V-, SG)
Power Consumption: (without LVDS output)
With no load on 4 USB ports:
• 1.88 A @ 9 VDC, 17 W
• 583 mA @ 24 VDC 14 W
• 422 mA @ 36 VDC 15 W
With full load on 4 USB ports:
• 3 A @ 9 VDC, 27 W
• 1 A @ 24 VDC, 24 W
• 700 mA @ 36 VDC, 25.2 W

Standards and Certifications
Safety: UL 508, UL 60950-1, CSA C22.2 No. 60950-1-07, EN 60950-1, CCC (GB9254, GB17625.1)
EMC: EN 55022 Class A, EN 61000-3-2 Class D, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A
Green Product: RoHS, cRoHS, WEEE

Reliability
Automatic Reboot Trigger: Built-in WDT (watchdog timer) supporting 1-255 level time interval system reset, software programmable
MTBF (mean time between failures): 231,633 hrs hrs

Warranty
Warranty Period: 3 years
Details: See www.moxa.com/warranty
Note: These hardware specifications describe the embedded computer unit itself, but not its official accessories. In particular, the wide temperature specification does not apply to accessories such as power adaptors and cables.

Software Specifications

Linux

OS: Linux 2.6.26, Debian Lenny 5.0
File System: EXT2
Internet Protocol Suite: TCP, UDP, IPv4, SNMPv1/v2c/v3, ICMP, ARP, HTTP, CHAP, PAP, SSH 1.0/2.0, SSL, DHCP, NTP, NFS, Telnet, FTP, TFTP, PPP, PPPoE
Internet Security: OpenVPN, iptables firewall
Web Server (Apache): Allows you to create and manage web sites; supports PHP and XML
Terminal Server (SSH): Provides secure encrypted communications between two un-trusted hosts over an insecure network
Dial-up Networking: PPP Daemon for Linux that allows Unix machines to connect to the Internet through dialup lines, using the PPP protocol, as a PPP server or client. Works with 'chat', 'dip', and 'diald', among (many) others. Supports IP, TCP, UDP, and (for Linux) IPX (Novell).
File Server: Enables remote clients to access files and other resources over the network
Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)
Application Development Software:
• Moxa API Library (Watchdog timer, Moxa serial I/O control, Moxa DI/DO API)
• GNU C/C++ compiler
• GNU C library
• Perl

Windows XP Embedded

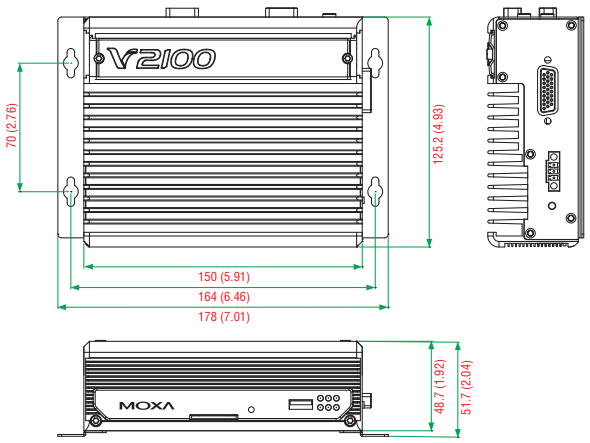
OS: Windows Embedded Standard 2009 SP3
File System: NTFS
Internet Protocol Suite: DHCP, DNS, FTP, HTTP, SNTP, NTP, Telnet, SMTP, SNMPv2, TCP, UDP, IPv4, ICMP, IGMP, IPsec, TAPI, ICS, PPP, CHAP, EAP, PPPoE, PPTP, NetBIOS
Web Server (IIS): Allows users to create and manage websites
Silverlight 2.0: A free runtime that powers rich application experiences and delivers high quality, interactive video across multiple platforms and browsers, using the .NET framework
Remote Registry Service: Enables remote users to modify registry settings on this computer
Remote Desktop: The Terminal Server Remote Desktop component provides remote access for the desktop of a computer running Terminal Services
Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)
Enhanced Writer Filter: Redirect disk write operations to volatile (RAM) or non-volatile (disk) storage
File Based Write Filter: The File Based Write Filter (FBWF) component redirects all write requests directed at protected volumes to the overlay cache, which records and displays the changes while preserving the protected status of the target volume.
Application Development Software:
• Moxa API Library
• Microsoft .Net Framework 3.5
• Active Directory Service Interface (ADSI) Core
• Active Template Library (ATL), ASP.NET 2.0
• Common Control Libraries
• Common File Dialogs
• Direct3D, DirectPlay, DirectShow, and Direct show filters
• Mapi32 Libraries
• Message Queuing (MSMQ) Core
• Microsoft Visual C++ Run Time Libraries
• Power Management dynamic-link library
• RPC
• Windows API, Script Engines, and WMI

Windows Embedded CE 6.0

OS: Windows Embedded CE 6.0 R2
File System: FAT (for on-board flash)
Internet Protocol Suite: TCP, UDP, IPv4, SNMPv2, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SNTP, SMTP, Telnet, FTP, PPP
Web Server (WinCE IIS): Supports ASP, ISAPI Secure Socket Layer (SSL 2/3) and Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration ISAPI Extensions
Dial-up Networking: Supports RAS client API and PPP, Extensible Authentication Protocol (EAP), and RAS scripting
File Server: Enables remote clients to access files and other resources over the network
Watchdog: Features a hardware function to trigger system reset in a user specified time interval. (Moxa API provided)
Application Development Software:
• Moxa WinCE 6.0 SDK
• Moxa API Library
• C Libraries and Run-times
• Component Services (COM and DCOM)
• Microsoft® .NET Compact Framework 3.5
• XML, including DOM, XQL, XPATH, XSLT, SAX, SAX2
• SOAP Toolkit Client
• Winsock 2.2

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

V2101-T-CE: x86 ready-to-run embedded computer with Intel Atom Z510PT, VGA, LVDS, Audio, 2 LANs, 2 serial ports, 3 DIs, 3 DOs, 4 USB 2.0 ports, SD, WinCE 6.0, -40 to 85°C operating temperature
V2101-T-XPE: x86 ready-to-run embedded computer with Intel Atom Z510PT, VGA, LVDS, Audio, 2 LANs, 2 serial ports, 3 DIs, 3 DOs, 4 USB 2.0 ports, SD, Windows Embedded Standard 2009, -40 to 85°C operating temperature
V2101-T-LX: x86 ready-to-run embedded computer with Intel Atom Z510PT, VGA, LVDS, Audio, 2 LANs, 2 serial ports, 3 DIs, 3 DOs, 4 USB 2.0 ports, SD, Linux 2.6, -40 to 85°C operating temperature

Optional Accessories (can be purchased separately)

PWR-24250-DT-S1: Power adaptor
PWC-C7US-2B-183: Power cord with 2-pin connector, USA plug
PWC-C7EU-2B-183: Power cord with 2-pin connector, Euro plug
PWC-C7UK-2B-183: Power cord with 2-pin connector, British plug
PWC-C7AU-2B-183: Power cord with 2-pin connector, Australia plug
PWC-C7CN-2B-183: Power cord with 2-pin connector, China plug

Package Checklist

- V2101 embedded computer
- Terminal block to power jack converter
- DIN-Rail mounting kit
- Wall mounting kit
- Documentation and software CD or DVD
- Quick installation guide (printed)
- Warranty card

UC-8410/8416/8418 Series

RISC ready-to-run embedded computers with 8 serial ports, 3 LANs, DIO, 8 switch ports, 2 CAN ports, USB, CompactFlash

- Intel XScale IXP435 533 MHz processor
- 8 RS-232/422/485 serial ports
- 2 CANbus ports (UC-8418)
- 8 unmanaged switch ports (UC-8416)
- 12 digital input and 12 digital output channels (UC-8418)
- 3 10/100 Mbps Ethernet ports
- 2 USB 2.0 hosts for mass storage devices
- Supports IPv6 function (Linux model only)
- DIN-Rail or wall mount installation
- Robust, fanless design
- -40 to 75°C wide temperature model available
- Ready-to-run Embedded Linux or Windows CE 6.0

Overview

The UC-8410/8416/8418 Series embedded computers come with 8 RS-232/422/485 serial ports, 3 Ethernet ports, 2 CAN ports, 8 Ethernet ports, 12 digital input channels, 12 digital output channels, a CompactFlash socket, and 2 USB 2.0 hosts.

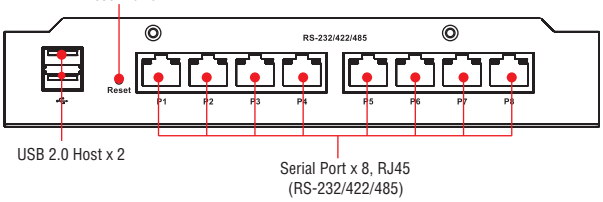
The computers use the Intel XScale IXP435 533 MHz RISC CPU. This powerful computing engine supports several useful communication functions, but will not generate too much heat. The built-in 16 MB NOR Flash ROM and 256 MB SDRAM give you enough memory to run your application software directly on the UC-8418, and the 32 MB NAND Flash can be used to provide additional data storage. Moreover, the 256 KB SRAM offers a better data retention mechanism for avoiding data loss. These computers come with various communication interaces, such as serial ports, Ethernet ports, CAN ports, and digital input/output channels, making them ideal as a communication platform for industrial applications that require network and device communications.

The UC-8410/8416/8418 Series comes with the Linux 2.6 or Windows CE 6.0 platform pre-installed to provide an open software operating system for software program development. Software written for a desktop PC can be easily ported to the UC-8410/8416/8418 Series platform by using a common compiler, without needing to modify the code. This makes the these computers an optimal solution for use with industrial applications, but with minimal cost and effort.

In addition to the standard model, a -40 to 75°C wide temperature model is also available for harsh industrial environments.

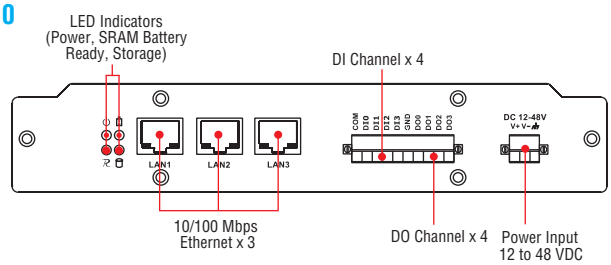
Appearance

Front View

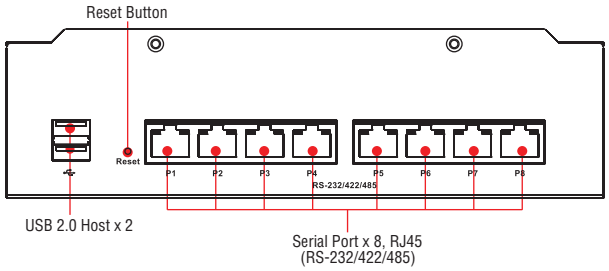


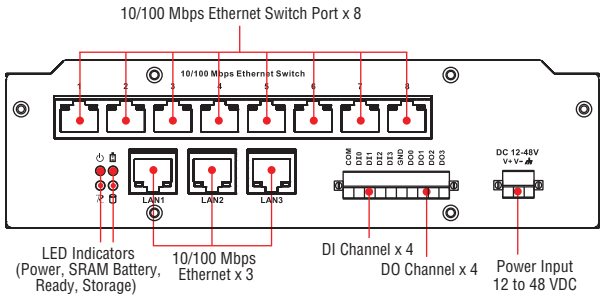
Rear View

UC-8410

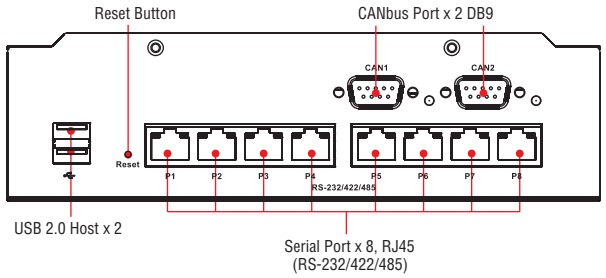


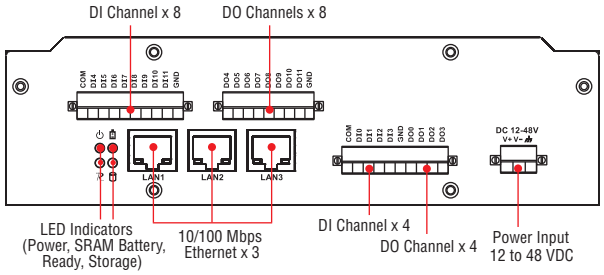
UC-8416





UC-8418





Hardware Specifications

Computer

CPU: Intel XScale IXP435, 533 MHz
OS (pre-installed): Linux
DRAM: 256 MB DDR2 SDRAM onboard (512 MB max.)
SRAM: 256 KB, battery backup
Flash:
• 16 MB NOR Flash onboard to store OS (supports up to 32 MB)
• 32 MB NAND Flash onboard to store data
Expansion Bus: PCI/104 onboard
USB: USB 2.0 compliant hosts x 2, type A connector

Storage

Storage Expansion: CompactFlash socket

Ethernet Interface

LAN: 3 auto-sensing 10/100 Mbps ports (RJ45)
Switch Port: 8 10/100 Mbps unmaaged ports (RJ45) (UC-8416)
Magnetic Isolation Protection: 1.5 kV built-in

Serial Interface

Serial Standards: 8 RS-232/422/485 ports, software-selectable (8-pin RJ45)
Console Port: RS-232 (TxD, RxD, GND), 4-pin header output (115200, n, 8, 1)

Serial Communication Parameters

Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485
Baudrate: 50 bps to 921.6 Kbps (supports non-standard baudrates; see user's manual for details)

Serial Signals

RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

Digital Input

Input Channels: 4 (UC-8410/8416)/12 (UC-8418), source type
Input Voltage: 0 to 30 VDC
Digital Input Levels for Dry Contacts:
• Logic level 0: Close to GND
• Logic level 1: Open
Digital Input Levels for Wet Contacts:
• Logic level 0: +3V max.
• Logic level 1: +10V to +30V (COM to DI)
Connector Type: 10-pin screw terminal block (4 points, COM, GND)
Isolation: 3 kV optical isolation

Digital Output

Output Channels: 4 (UC-8410/8416)/12 (UC-8418), sink type
Output Current: Max. 200 mA per channel
On-state Voltage: 24 VDC nominal, open collector to 30 V
Connector Type: 10-pin screw terminal block (4 points, GND)
Isolation: 3 kV optical isolation

CANbus Communication (UC-8418 only)

Interface: Dual optically isolated CAN2.0A/2.0B compliant ports
CAN Controller: Phillips SJA1000T
Signals: CAN-H, CAN-L
Isolation: 2 kV digital isolation
Speed: 10 Kbps to 1 Mbps
Connector Type: DB9 male

LEDs

System: Power, Ready, Storage, Battery for SRAM
LAN: 10M/Link x 2, 100M/Link x 2 (on connector)
Serial: TxD x 8, RxD x 8
Reset Button: Supports "Reset to Factory Default"

Physical Characteristics

Housing: SECC sheet metal (1 mm)
Weight:
• UC-8410: 850 g
• UC-8416/8418: 1 kg

Dimensions:
• UC-8410: 200 x 37 x 120 mm (7.87 x 1.46 x 4.72 in)
• UC-8416/8418: 200 x 57 x 120 mm (7.87 x 2.24 x 4.72 in)
Mounting: DIN-Rail, wall

Environmental Limits

Operating Temperature:
Standard Models: -10 to 60°C (14 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature:
Standard Models: -20 to 75°C (-4 to 167°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: 2 g rms @ IEC-68-2-34, random wave, 5-500 Hz, 1 hr per axis
Anti-shock: 20 g @ IEC-68-2-27, half sine wave, 11 ms

Power Requirements

Input Voltage: 12 to 48 VDC (3-pin terminal block)
Power Consumption: 15 W
• 310 mA @ 48 VDC
• 625 mA @ 24 VDC
• 1350 mA @ 12 VDC

Standards and Certifications

Safety: UL 60950-1, EN 60950-1, CCC (GB9254, GB17625.1)
EMC: EN 55022 Class B, EN 55024-4-2, EN 55024-4-3, EN 55024-4-4, FCC Part 15 Subpart B Class B

Reliability

Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures):
• UC-8410: 171,369 hrs
• UC-8416: 156,942 hrs
• UC-8418: 149,140 hrs

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty
Note: The Hardware Specifications apply to the embedded computer unit itself, but not to accessories. In particular, the wide temperature specification does not apply to accessories such as the power adaptor and cables.

Software Specifications

Linux

OS: Linux 3.8.13
File System: JFFS2, NFS, Ext2, Ext3
Internet Protocol Suite: TCP, UDP, IPv4, IPv6, SNMPv1, ICMP, ARP, HTTP, CHAP, PAP, DHCP, NTP, NFS, SMTP, Telnet, FTP, TFTP, PPP, PPPoE
Internet Security: OpenVPN, iptables firewall
Web Server (Apache): Allows you to create and manage web sites; supports PHP and XML
Terminal Server (SSH): Provides secure encrypted communications between two un-trusted hosts over an insecure network
Dial-up Networking: PPP Daemon for Linux that allows Unix machines to connect to the Internet through dialup lines, using the PPP protocol, as a PPP server or client. Works with 'chat', 'dip', and 'diald', among (many) others. Supports IP, TCP, UDP, and (for Linux) IPX (Novell).
Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)
Application Development Software:
• Moxa API Library (Watchdog timer, Moxa serial I/O control, Moxa DI/DO API)
• GNU C/C++ cross-compiler
• GNU C library
• GDB source-level debugging server
Software Protection: Encryption tool for user executable files (based on patented Moxa technology)

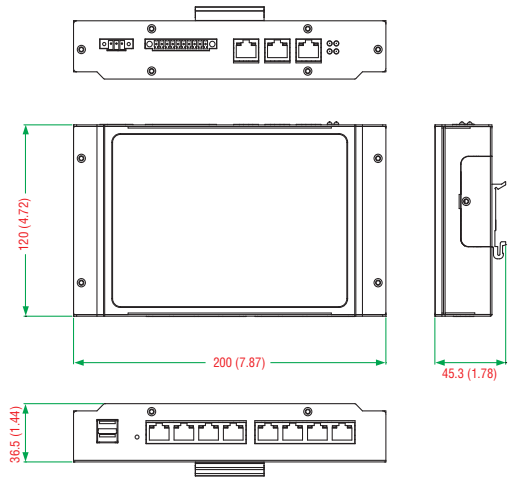
Windows Embedded CE 6.0

OS: Windows Embedded CE 6.0
File System: FAT
Internet Protocol Suite: TCP, UDP, IPv4, IPv6, SNMPv2, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SNTP, SMTP, Telnet, FTP, PPP
Web Server (WinCE IIS): Supports ASP, ISAPI Secure Socket Layer (SSL 2/3) and Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration ISAPI Extensions
Dial-up Networking: Supports RAS client API and PPP, Extensible Authentication Protocol (EAP), and RAS scripting
Watchdog: Features a hardware function to trigger system reset in a user specified time interval. (Moxa API provided)
Application Development Software:
• Moxa WinCE 6.0 SDK
• Moxa API Library
• C Libraries and Run-times
• Component Services (COM and DCOM)
• Microsoft® .NET Compact Framework 3.5
• XML, including DOM, XQL, XPATH, XSLT, SAX, SAX2
• SOAP Toolkit Client
• Winsock 2.2

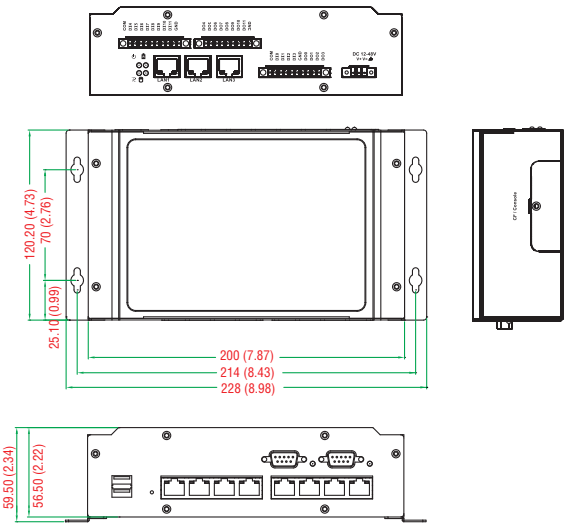
Dimensions

Unit: mm (inch)

UC-8410



UC-8416/8418



Ordering Information

Available Models

UC-8410-LX: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, CompactFlash, USB, Linux OS, -10 to 60°C operating temperature
UC-8410-CE: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, CompactFlash, USB, Windows CE 6.0 OS, -10 to 60°C operating temperature
UC-8410-T-LX: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, CompactFlash, USB, Linux OS, -40 to 75°C operating temperature
UC-8410-T-CE: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, CompactFlash, USB, Windows CE 6.0 OS, -40 to 75°C operating temperature
UC-8418-LX: RISC-based industrial embedded computer with 8 serial ports, 12 DIs, 12 DOs, 3 LANs, 2 CAN ports, CompactFlash, USB, Linux OS, -10 to 60°C operating temperature
UC-8416-LX: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, 8 switch ports, CompactFlash, USB, Linux OS, -10 to 60°C operating temperature
UC-8416-CE: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, 8 switch ports, CompactFlash, USB, Windows CE 6.0 OS, -10 to 60°C operating temperature
UC-8416-T-LX: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, 8 switch ports, CompactFlash, USB, Linux OS, -40 to 75°C operating temperature
UC-8416-T-CE: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, 8 switch ports, CompactFlash, USB, Windows CE 6.0 OS, -40 to 75°C operating temperature
UC-8418-CE: RISC-based industrial embedded computer with 8 serial ports, 12 DIs, 12 DOs, 3 LANs, 2 CAN ports, CompactFlash, USB, Windows CE 6.0 OS, -10 to 60°C operating temperature
UC-8418-T-LX: RISC-based industrial embedded computer with 8 serial ports, 12 DIs, 12 DOs, 3 LANs, 2 CAN ports, CompactFlash, USB, Linux OS, -40 to 75°C operating temperature
UC-8418-T-CE: RISC-based industrial embedded computer with 8 serial ports, 12 DIs, 12 DOs, 3 LANs, 2 CAN ports, CompactFlash, USB, Windows CE 6.0 OS, -40 to 75°C operating temperature

Package Checklist

- UC-8410/8416/8418 embedded computer
- Wall mounting kit
- DIN-Rail mounting kit
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-4PINDB9F-100: 4-pin pin header to DB9 female console port cable, 100 cm
- Universal power adapter (including power jack converter)
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

UC-8430 Series

RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, CompactFlash, dual VGA, audio, 6 USB

- Intel XScale IXP435 533 MHz processor
- 256 MB DDR2 SDRAM
- 32 MB NAND Flash for data storage
- 32 MB NOR Flash to store OS
- Dual VGA displays
- 3 10/100 Mbps Ethernet Ports
- 8 RS-232/422/485 serial ports (non-standard baudrates supported)
- 6 USB 2.0 ports for high speed access to peripherals
- 4 digital input channels and 4 digital output channels
- Supports IPv6 function (Linux model only)
- CompactFlash socket for storage expansion
- Ready-to-run Embedded Linux or Windows CE 6.0
- Robust, fanless design

Overview

The UC-8430 embedded computer comes with 8 RS-232/422/485 serial ports, 3 Ethernet ports, dual displays, 4 digital input channels, 4 digital output channels, a CompactFlash socket, and 6 USB 2.0 hosts.

The computer uses the Intel XScale IXP435 533 MHz RISC CPU. This powerful computing engine supports several useful communication functions, but will not generate too much heat. The built-in 32 MB NOR Flash ROM and 256 MB SDRAM give you enough memory to run your application software directly on the UC-8430, and the 32 MB NAND Flash can be used to provide additional data storage.

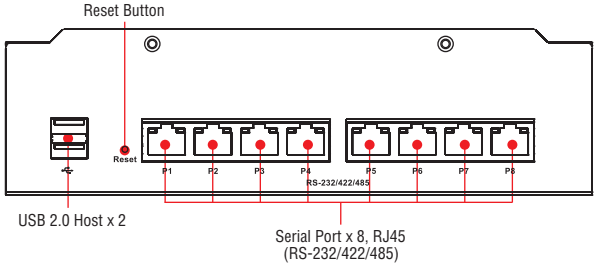
Moreover, the 256 KB SRAM offers a better data retention mechanism for avoiding data loss. The UC-8430 computer comes with 8 RS-232/422/485 serial ports, digital I/O, and has 3 LAN ports, making it ideal as a communication platform for industrial applications that require network redundancy. As an added convenience, the UC-8430 comes with dual VGA outputs; this is particularly helpful when establishing an industrial application at a remote field site.

The UC-8430 comes with the Linux 2.6 or Windows CE 6.0 platform pre-installed to provide an open software operating system for software program development. Software written for a desktop PC can be easily ported to the UC-8430 platform by using a common compiler, without needing to modify the code. This makes the UC-8430 an optimal solution for use with industrial applications, but with minimal cost and effort.

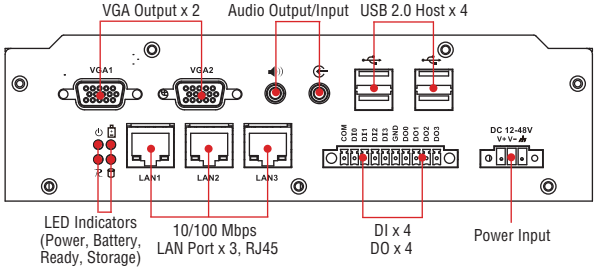
A wide temperature model of the UC-8430, designed to operate reliably in temperatures ranging from -40 to 75°C, is also available.

Appearance

Front View

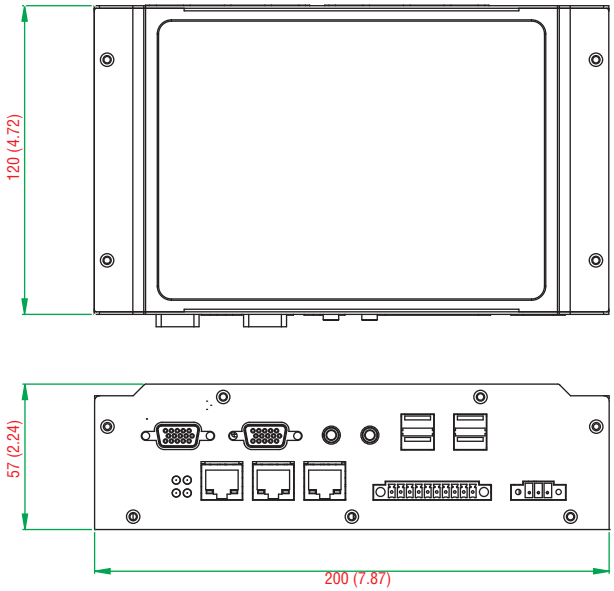


Rear View



Dimensions

Unit: mm (inch)



Hardware Specifications

Computer
CPU: Intel XScale IXP435, 533 MHz
OS (pre-installed): Linux, Window CE 6.0
DRAM: 256 MB DDR2 SDRAM onboard (supports DDR2 up to 512 MB)
SRAM: 256 KB, battery backup
Flash:
32 MB NOR Flash onboard to store OS
32 MB NAND Flash onboard to store data
USB: USB 2.0 host x 6

Storage
Storage Expansion: CompactFlash socket
Expansion Bus: PCI/104

Other Peripherals
Audio: SM502 chip with line-in/out interface

Display
Graphics Controller: SM502 chip
Display Interface: 15-pin D-Sub connector x 2
Resolution: CRT display mode with pixel resolution up to 1024 x 768

Ethernet Interface
LAN: 3 auto-sensing 10/100 Mbps ports (RJ45)
Magnetic Isolation Protection: 1.5 kV built-in

Serial Interface
Serial Standards: 8 RS-232/422/485 ports, software-selectable (8-pin RJ45)
Console Port: RS-232 (TxD, RxD, GND), 4-pin pin header output (115200, n, 8, 1)

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485
Baudrate: 50 bps to 921.6 kbps (supports non-standard baudrates; see user's manual for details)

Serial Signals
RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

Digital Input
Input Channels: 4, source type
Input Voltage: 0 to 30 VDC
Digital Input Levels for Dry Contacts:
• Logic level 0: Close to GND
• Logic level 1: Open
Digital Input Levels for Wet Contacts:
• Logic level 0: +3 V max.
• Logic level 1: +10 V to +30 V (COM to DI)
Connector Type: 10-pin screw terminal block (4 points, COM, GND)
Isolation: 3 kV optical isolation

Digital Output
Output Channels: 4, sink type
Output Current: Max. 200 mA per channel
On-state Voltage: 24 VDC nominal, open collector to 30 V
Connector Type: 10-pin screw terminal block (4 points, GND)

LEDs
System: Power, Ready, Storage, Battery for SRAM
LAN: 10M/Link x 3, 100M/Link x 3 (on connector)
Serial: TxD x 8, RxD x 8
Reset Button: Supports "Reset to Factory Default"

Physical Characteristics
Housing: SECC sheet metal (1 mm)
Weight: 1 kg
Dimensions: 200 x 57 x 120 mm (7.87 x 2.24 x 4.72 in)
Mounting: DIN-Rail, wall

Environmental Limits
Operating Temperature:
Standard Models: -10 to 60°C (14 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature:
Standard Models: -20 to 75°C (-4 to 167°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: 2 g rms @ IEC-68-2-34, random wave, 5-500 Hz, 1 hr per axis
Anti-shock: 20 g @ IEC-68-2-27, half sine wave, 30 ms

Power Requirements

Input Voltage: 12 to 48 VDC (3-pin terminal block)
Power Consumption: 14 W
• 270 mA @ 48 VDC
• 533 mA @ 24 VDC
• 1120 mA @ 12 VDC

Standards and Certifications

Safety: UL 60950-1, EN 60950-1, CCC (GB9254, GB17625.1)
EMC: EN55022 Class B, EN 55024-4-2, EN 55024-4-3, EN 55024-4-4, FCC Part 15 Subpart B Class B

Reliability

Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures): 217,675 hrs

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty
Note: The Hardware Specifications apply to the embedded computer unit itself, but not to accessories. In particular, the wide temperature specification does not apply to accessories such as the power adaptor and cables.

Software Specifications

Linux

OS: Linux 2.6.23
File System: JFFS2, NFS, Ext2, Ext3
Internet Protocol Suite: TCP, UDP, IPv4, IPv6, SNMPv1, ICMP, ARP, HTTP, CHAP, PAP, DHCP, NTP, NFS, SMTP, Telnet, FTP, TFTP, PPP, PPPoE
Internet Security: OpenVPN, iptables firewall
Web Server (Apache): Allows you to create and manage web sites; supports PHP and XML
Terminal Server (SSH): Provides secure encrypted communications between two un-trusted hosts over an insecure network
Dial-up Networking: PPP Daemon for Linux that allows Unix machines to connect to the Internet through dialup lines, using the PPP protocol, as a PPP server or client. Works with 'chat', 'dip', and 'dialD', among (many) others. Supports IP, TCP, UDP, and (for Linux) IPX (Novell).
Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)
Application Development Software:
• Moxa API Library (Watchdog timer, Moxa serial I/O control, Moxa DI/DO API)
• GNU C/C++ cross-compiler
• GNU C library
• GDB source-level debugging server
QT Embedded: Supports GUI development
Software Protection: Encryption tool for user executable files (based on patented Moxa technology)

Windows Embedded CE 6.0

OS: Windows Embedded CE 6.0 R3
File System: FAT
Internet Protocol Suite: TCP, UDP, IPv4, IPv6, SNMPv2, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SNTP, SMTP, Telnet, FTP, PPP
Web Server (WinCE IIS): Supports ASP, ISAPI Secure Socket Layer (SSL 2/3) and Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration ISAPI Extensions
Dial-up Networking: Supports RAS client API and PPP, Extensible Authentication Protocol (EAP), and RAS scripting
Watchdog: Features a hardware function to trigger system reset in a user specified time interval. (Moxa API provided)
Application Development Software:
• Moxa WinCE 6.0 SDK
• Moxa API Library
• C Libraries and Run-times
• Component Services (COM and DCOM)
• Microsoft® .NET Compact Framework 3.5
• XML, including DOM, XQL, XPATH, XSLT, SAX, SAX2
• SOAP Toolkit Client
• Winsock 2.2

Ordering Information

Available Models

UC-8430-LX: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, CompactFlash, Dual VGA, Audio, 6 USB, Linux OS, -10 to 60°C operating temperature
UC-8430-CE: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, CompactFlash, Dual VGA, Audio, 6 USB, Windows CE 6.0 OS, -10 to 60°C operating temperature
UC-8430-T-LX: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, CompactFlash, Dual VGA, Audio, 6 USB, Linux OS, -40 to 75°C operating temperature
UC-8430-T-CE: RISC-based industrial embedded computer with 8 serial ports, 4 DIs, 4 DOs, 3 LANs, CompactFlash, Dual VGA, Audio, 6 USB, Windows CE 6.0 OS, -40 to 75°C operating temperature

Package Checklist

- UC-8430 embedded computer
- Wall mounting kit
- DIN-Rail mounting kit
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-4PINDB9F-100: 4-pin pin header to DB9 female console port cable, 100 cm
- Universal power adaptor (including power jack converter)
- Documentation and software CD or DVD
- Quick installation guide (printed)
- Warranty card

UC-7410-LX Plus

RISC-based ready-to-run computer with 8 serial ports, dual LANs, USB

- Intel XScale IXP425, 533 MHz processor
- 128 MB RAM onboard, 32 MB flash
- 8 RS-232/422/485 serial ports
- Dual 10/100 Mbps LANs for network redundancy
- USB 1.1 host
- LCM display and keypad for HMI
- Built-in firewall and VPN function
- Apache web server supporting PHP and XML
- Ready-to-run Linux platform
- DIN-Rail or wall mount installation
- Robust, fanless design

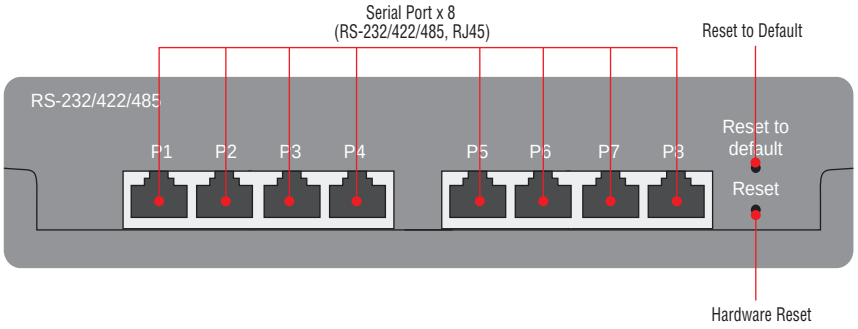
Overview

The UC-7410-LX Plus computers are RISC-based ready-to-run computer designed for embedded applications. The computers feature 8 RS-232/422/485 serial ports for device communication, and a USB port for adding external memory.

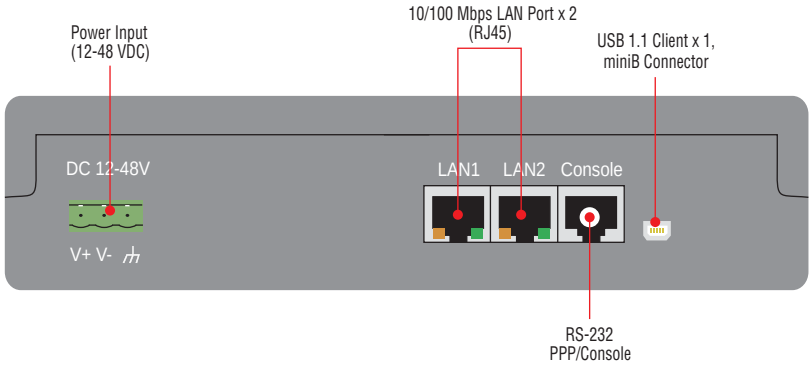
The pre-installed open-standard Linux operating systems make a convenient platform for software development. In fact, software written for a desktop PC can be ported as is to the computer's platform using readily available development tools, and the code can be stored in the UC-7410-LX Plus computer's Flash memory. System integrators use the UC-7410-LX Plus as part of distributed control systems based on embedded technology.

Appearance

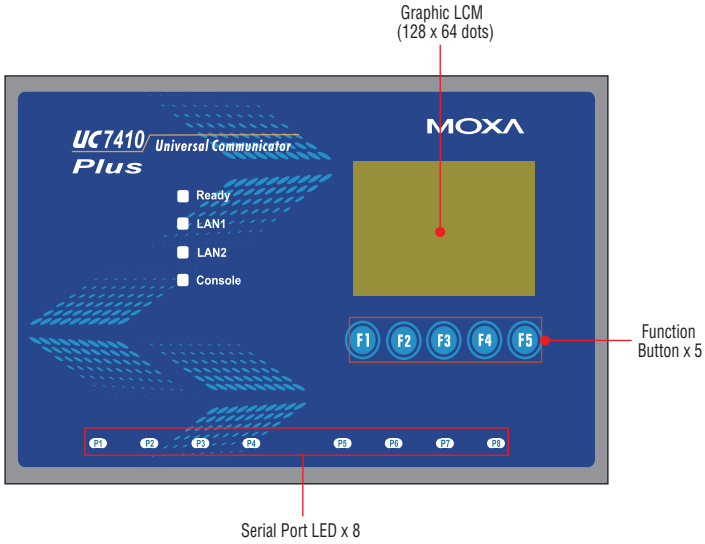
Front View



Rear View



Top View



Hardware Specifications

Computer
CPU: Intel XScale IXP425 533 MHz
OS (pre-installed): Embedded Linux
DRAM: 128 MB onboard
Flash: 32 MB onboard
USB: USB 1.1 client x 1, mini B connector

Ethernet Interface
LAN: 2 auto-sensing 10/100 Mbps ports (RJ45)
Magnetic Isolation Protection: 1.5 kV built-in

Serial Interface
Serial Standards: RS-232/422/485 software-selectable (8-pin RJ45), 8 ports
ESD Protection: 15 kV for all signals
Console Port: RS-232 (all signals), RJ45 connector, supports PPP

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485
Baudrate: 50 bps to 921.6 kbps (supports non-standard baudrates; see user's manual for details)

Serial Signals
RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

LEDs
System: OS Ready, Console
LAN: 10M/100M x 2
Serial: TxD x 8, RxD x 8

Physical Characteristics
Housing: SECC sheet metal (1 mm)
Weight: 810 g
Dimensions: 197 x 44 x 125 mm (7.76 x 1.73 x 4.92 in)
Mounting: DIN-Rail, wall

Environmental Limits
Operating Temperature: -10 to 60°C (14 to 140°F)
Storage Temperature: -20 to 80°C (-4 to 176°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: 1 g @ IEC-68-2-6, sine wave (resonance search), 5-500 Hz, 1 Oct/min, 1 cycle, 13 min 17 sec per axis
Anti-Shock: 5 g @ IEC-68-2-27, half sine wave, 30 ms

Power Requirements
Input Voltage: 12 to 48 VDC
Power Consumption: 10 W
- 200 mA @ 48 VDC
- 415 mA @ 24 VDC
- 830 mA @ 12 VDC

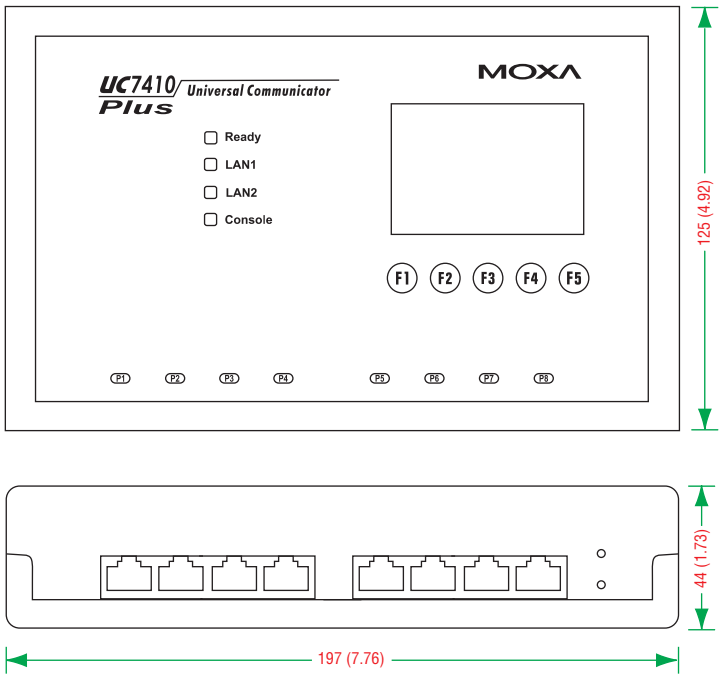
Standards and Certifications
Safety: UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1
EMC: EN 55022 Class A, EN 61000-3-2 Class A, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A

Reliability
Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Software Specifications

Linux

Kernel Version: 2.6.10
Protocol Stack: TCP, UDP, IPv4, SNMP V1, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSH 1.0/2.0, SSL, DHCP, NTP, NFS, SMTP, Telnet, FTP, PPP, PPPoE
File System: JFFS2 (on-board flash)
System Utilities: bash, busybox, tinylogin, telnet, ftp, scp
telnetd: Telnet Server daemon
ftpd: FTP server daemon
sshd: Secure shell server
Apache: Web server daemon, supporting PHP and XML
openvpn: Virtual private network service manager
iptables: Firewall service manager
pppd: dial in/out over serial port daemon & PPPoE
snmpd: snmpd agent daemon
inetd: TCP server manager program
Application Development Software:
• Moxa Linux API Library for device control
• Linux Tool Chain: Gcc, Glibc, GDB

Ordering Information

Available Models

UC-7410-LX Plus: RISC-based IXP425 embedded computer with 8 serial ports, dual LANs, Linux 2.6

Package Checklist

- UC-7410-LX Plus embedded computer
- Wall mounting kit
- DIN-Rail mounting kit
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-4PINDB9F-100: 4-pin pin header to female DB9 console port cable, 100 cm
- CBL-RJ45M9-150: 8-pin RJ45 to male DB9 cable, 150 cm
- Universal power adaptor (including power jack converter)
- Documentation and software CD
- Quick installation guide (printed)

UC-7101/7110/7112 Series

RISC ready-to-run embedded computers with 1 or 2 serial ports, dual LANs, SD

- MOXA ART ARM9 32-bit 192 MHz processor
- 16 or 32 MB RAM
- 8 or 16 MB Flash ROM
- Dual or single10/100 Mbps Ethernet for network redundancy
- 1 or 2 software-selectable RS-232/422/485 ports
- 50 bps to 921.6 kbps baudrate (non-standard baudrates supported)
- SD socket for storage expansion
- Built-in real-time clock (RTC) and buzzer
- Pre-installed Linux Kernel 2.6 platform
- -40 to 75°C wide temperature models available

Overview

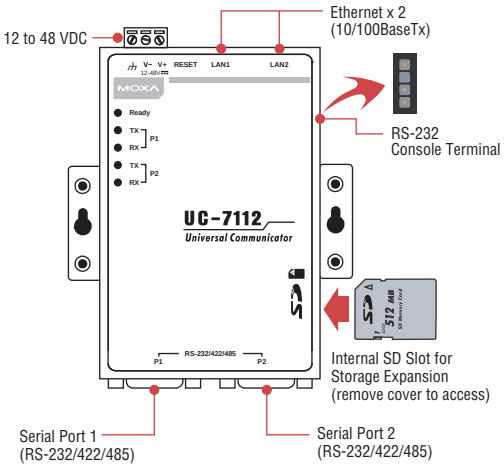
The UC-7101/UC-7110/UC-7112 mini RISC-based communication platforms are ideal for embedded applications. The computers come with 1 or 2 RS-232/422/485 serial ports and single or dual 10/100 Mbps Ethernet LAN ports to provide users with a versatile communication platform.

The UC-7101/UC-7110/UC-7112 use the ARM9 RISC CPU. Its design architecture and modern semiconductor technology provide the CPU with a powerful computing engine and communication functions, but without generating too much heat. The built-in 8 or 16 MB NOR Flash ROM and 16 or 32 MB SDRAM provide plenty of storage, and the SD socket (UC-7101 and UC-7112 only) provide users with flexible storage expansion to run applications that generate a lot of data. The dual or single LAN ports built into the ARM9 make the UC-7101/7110/UC-7112 computers ideal communication platforms for data acquisition and protocol conversion applications, and the 1 or 2 RS-232/422/485 serial ports allow you to connect a variety of serial devices.

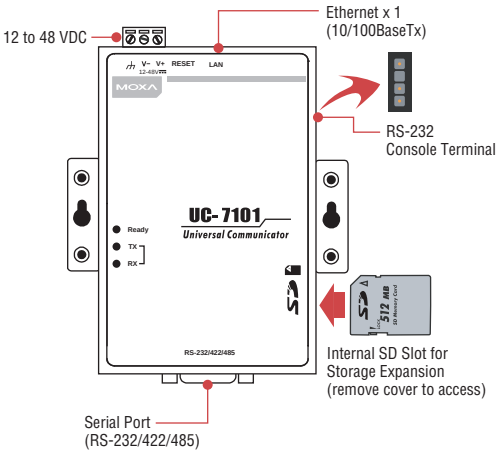
The pre-installed µClinux or Linux operating system provides an open platform for software development. This means that software written for desktop PCs can be easily ported to a UC-7101, UC-7110 or UC-7112 embedded computer with a GNU cross complier, eliminating the need to spend time modifying existing code. The operating system, device drivers, and your own software can all be stored in the UC-7101/UC-7110/UC-7112's flash memory.

Appearance

UC-7110/UC-7112



UC-7101



Hardware Specifications

Computer
CPU: MOXA ART ARM9 32-bit RISC CPU, 192 MHz
OS (pre-installed): µClinux or Linux
DRAM:
UC-7101/7110/7112: 16 MB
UC-7112 Plus: 32 MB onboard
Flash:
UC-7101/7110/7112: 8 MB onboard
UC-7112 Plus: 16 MB onboard

Storage
Storage Expansion: SD slot (UC-7101, UC-7112, and UC-7112 Plus only)

Ethernet Interface
LAN: Auto-sensing 10/100 Mbps (RJ45)
• UC-7101: 1 port
• UC-7110/7112/7112 Plus: 2 ports
Magnetic Isolation Protection: 1.5 kV built-in

Serial Interface
Serial Standards: RS-232/422/485 software-selectable (DB9 male)
• UC-7101: 1 port
• UC-7110/7112: 2 ports
ESD Protection: 4 kV ESD for all signals
Console Port: RS-232 (TxD, RxD, GND)
• UC-7101: 4-pin pin header output
• UC-7110/7112: 3-wire pin-header

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485
Baudrate: 50 bps to 921.6 kbps (supports non-standard baudrates; see user's manual for details)

Serial Signals
RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

LEDs
System: Ready
LAN: LED located on the RJ45 connector
• UC-7101: 10M/Link x 1, 100M/Link x 1
• UC-7110/7112: 10M/Link x 2, 100M/Link x 2
Serial:
• UC-7101: TxD x 1, RxD x 1
• UC-7110/7112: TxD x 2, RxD x 2

Physical Characteristics
Housing: Aluminum (1 mm)
Weight:
• UC-7101: 130 g
• UC-7110/7112: 190 g
Dimensions:
• UC-7101: 67 x 22 x 100.4 mm (2.64 x 0.87 x 3.95 in)
• UC-7110/7112: 77 x 111 x 26 mm (3.03 x 4.37 x 1.02 in)
Mounting: DIN rail, wall

Environmental Limits
Operating Temperature:
Standard Models: -10 to 60°C (14 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature:
Standard Models: -20 to 80°C (-4 to 176°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: 1 g @ IEC-68-2-6, sine wave (resonance search), 5-500 Hz, 1 Oct/min, 1 cycle, 13 min 17 sec per axis (UC-7101/7110 only)

Power Requirements
Input Voltage:
12 to 48 VDC
Power Consumption: 4.5 W
• 170 mA @ 24 VDC
• 340 mA @ 12 VDC

Standards and Certifications
Safety:
• UC-7101: UL 60950, CSA-C22.2 No. 60950-1, EN 60950-1
• UC-7110/7112: UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1
EMC: EN 55022 Class A, EN 61000-3-2 Class A, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A, DNV
Green Product: RoHS, CRoHS, WEEE

Reliability
Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures):
UC-7101: 514,973 hrs
UC-7110: 149,414 hrs
UC-7112: 148,990 hrs

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty
Note: These hardware specifications describe the embedded computer unit itself, but not its official accessories. In particular, the wide temperature specification does not apply to accessories such as power adaptors and cables.

Software Specifications

Linux (UC-7112-LX Plus only)

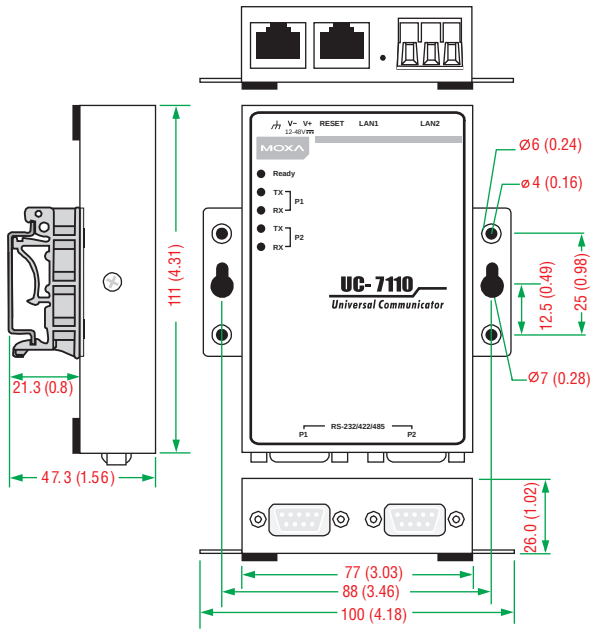
OS: Linux 2.6.38
File System: JFFS2, NFS, Ext2, Ext3, Ext4, VFAT/FAT
Internet Protocol Suite: TCP, UDP, IPv4, IPv6, SNMP v1/v2c, ICMP, ARP, HTTP, CHAP, PAP, DHCP, NTP, NFS, SMTP, Telnet, FTP, TFTP, PPP, PPPoE, SSH 1.0/2.0, SSL
Internet Security: OpenVPN, iptables firewall, OpenSSL
Terminal Server (SSH): Provides secure encrypted communications between two un-trusted hosts over an insecure network
Dial-up Networking: PPP Daemon for Linux that allows Unix machines to connect to the Internet through dialup lines, using the PPP protocol, as a PPP server or client. Works with 'chat', 'dip', and 'diald', among (many) others. Supports IP, TCP, UDP, and (for Linux) IPX (Novell).
Watchdog: Features a hardware function to trigger system reset in a user specified time interval(Moxa API provided)
Moxa Package Management System (MPKG): Provides package management system which you can install/uninstall software utilities or libraries.
IP Bonding: Linux standard bonding driver provides a method for aggregating multiple network interfaces into a single logical "bonded" interface.
Net-SNMP: Support v1 and v2c.
Cryptographic Hardware Accelerator: Support algorithms of DES-ECB, DES-CBC, DES-EDE3, AES-ECB and AES-CBC.
Debian: Provide Debian 5 lenny port.
Application Development Software:
• Moxa API Library (Moxa serial I/O control, Moxa DI/DO API, Moxa buzzer API)
• GNU C/C++ cross-compiler
• GNU C library

µClinux

OS: µClinux 2.6.19
File System: JFFS2
Internet Protocol Suite: TCP, UDP, IPv4, SNMPv1, ICMP, ARP, HTTP, CHAP, PAP, DHCP, NTP, NFS, SMTP, Telnet, FTP, TFTP, PPP, PPPoE
Web Server (boa): Allows you to create and manage web sites
Terminal Server (Telnet): Provides telnet communications between two hosts over the network
Dial-up Networking: PPP Daemon for Linux allows Unix machines to connect to the internet through dialup lines, using the PPP protocol, as a PPP server or client. Works with 'chat', 'dip', and 'diald', among (many) others. Supports IP, TCP, UDP, and (for Linux) IPX (Novell)
Application Development Software:
• Moxa API Library (Watchdog timer, Moxa serial I/O control)
• arm-elf-gcc: C/C++ cross-compiler
• µClibc: POSIX standard C library

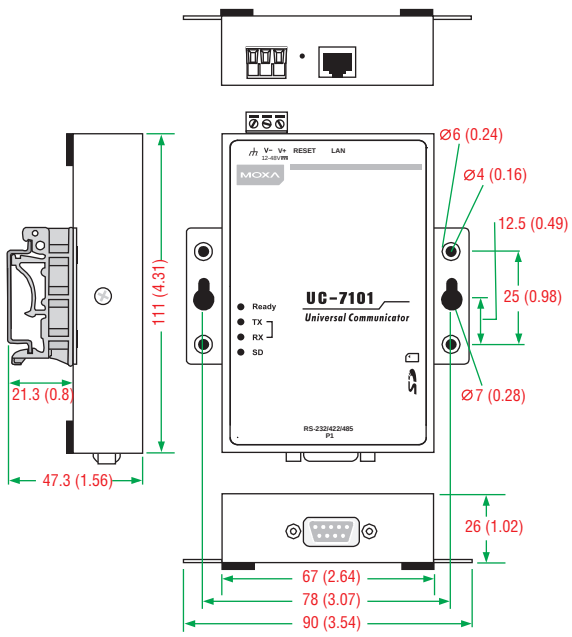
Dimensions

UC-7110/UC-7112



UC-7101

Unit: mm (inch)



Model Name	Serial Ports	LAN Ports	Storage	OS		Wide Temp.
	RS-232/422/485	10/100 Mbps	SD	uClinux	Linux	
UC-7101	1	1	✓	✓	–	✓
UC-7110	2	2	–	✓	–	✓
UC-7112	2	2	✓	✓	✓	–

Ordering Information

Available Models

UC-7101-LX: Mini RISC-based embedded computer with 1 serial port, LAN, µClinux OS, -10 to 60°C operating temperature
UC-7110-LX: Mini RISC-based embedded computer with 2 serial ports, dual LANs, µClinux OS, -10 to 60°C operating temperature
UC-7112-LX: Mini RISC-based embedded computer with 2 serial ports, dual LANs, SD, µClinux 2.6 OS, -10 to 60°C operating temperature
UC-7112-LX Plus: Mini RISC-based embedded computer with 2 serial ports, dual LANs, SD, Linux 2.6 OS, -10 to 60°C operating temperature
UC-7101-T-LX: Mini RISC-based embedded computer with 1 serial port, LAN, µClinux OS, -40 to 75°C operating temperature
UC-7110-T-LX: Mini RISC-based embedded computer with 2 serial ports, dual LANs, µClinux OS, -40 to 75°C operating temperature

Package Checklist

- UC-7101 or UC-7110 or UC-7112 embedded computer
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-4PINDB9F-100: 4-pin pin header to DB9 female console port cable, 100 cm
- Universal power adaptor (including terminal block to power jack converter)
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

UC-7122/7124 Series

RISC ready-to-run embedded computers with dual LANs, 2 or 4 serial ports, SD, USB

- Cirrus Logic EP9302 ARM9 32-bit 200 MHz processor
- On-board 32 MB RAM, 16 MB flash disk
- 2 or 4 software-selectable RS-232/422/485 serial ports
- 50 bps to 921.6 kbps baudrate (non-standard baudrates supported)
- Dual 10/100 Mbps Ethernet for network redundancy
- SD socket for storage expansion supported
- Built-in real-time clock (RTC), buzzer, watchdog timer (WDT)
- Ready-to-run WinCE 5.0 platform
- -40 to 75°C wide temperature models available

Overview

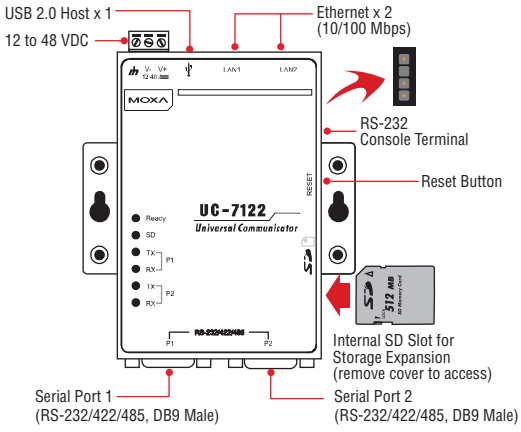
The UC-7122/7124 embedded computers come with 2 or 4 RS-232/422/485 serial ports and dual 10/100 Mbps Ethernet LAN ports to provide users with a versatile communication platform, making these RISC-based embedded computers ideal for your embedded applications.

The UC-7122/7124 embedded computers use the Cirrus Logic EP9302 ARM9 200 MHz RISC CPU. Unlike the x86 CPU, which uses a CISC design, the ARM9's RISC design architecture and modern semiconductor technology provide the UC-7122/7124 with a powerful computing engine and communication functions, but without generating too much heat. Moreover, the built-in 16 MB NOR Flash ROM and 32 MB SDRAM give you enough storage capacity to run applications on the UC-7122/7124 computers. The additional SD socket provides the flexibility of adding storage expansion disks, and the dual LAN ports built into the ARM9 make the UC-7122/7124 ideal communication platforms for simple data acquisition and protocol conversion applications. In addition, the RS-232/422/485 serial ports allow you to connect a variety of serial devices. Taken together, these features ensure that the UC-7122/7124 embedded computers are convenient and powerful central control units for industrial applications, such as data acquisition, remote device control and monitoring, and protocol conversion.

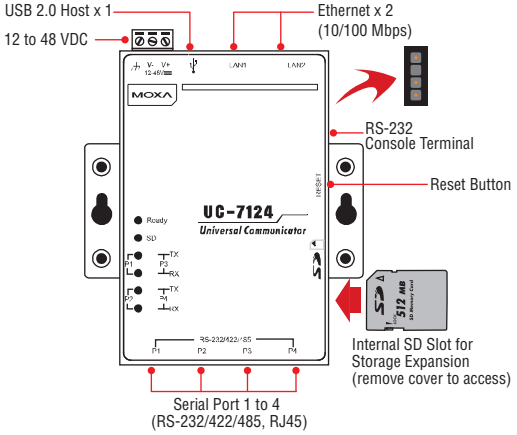
The pre-installed WinCE 5.0 operating system provides a common Windows-based software operating system for software program development. This means that software written in Visual C/C++ for desktop PCs is easily ported to the UC-7122/7124 computers with a general programming tool such as Microsoft Embedded Visual C++ or Microsoft Visual Studio 2005. You will not need to spend time modifying existing software code, and the operating system, device drivers, and your own software can all be stored in the UC-7122/7124's flash memory.

Appearance

UC-7122



UC-7124



Hardware Specifications

Computer
CPU: Cirrus EP9302 ARM9 CPU, 200 MHz
OS (pre-installed): Windows CE 5.0
DRAM: 32 MB onboard
Flash: 16 MB onboard

Storage
Storage Expansion: SD slot

Ethernet Interface
LAN: 2 auto-sensing 10/100 Mbps ports (RJ45)
Magnetic Isolation Protection: 1.5 kV built-in

Serial Interface
Serial Standards:
UC-7122: 2 RS-232/422/485 ports, software-selectable (DB9 male)
UC-7124: 4 RS-232/422/485 ports, software-selectable (RJ45)
ESD Protection: 4 kV for all signals
Console Port: RS-232 (TxD, RxD, GND), 4-pin pin header output

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485
Baudrate: 50 bps to 921.6 kbps (supports non-standard baudrates; see user's manual for details)

Serial Signals
RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

LEDs
System: Ready, SD
LAN: 10M/Link x 2, 100M/Link x 2 (on connector)
Serial: TxD, RxD (2 or 4 of each)

Physical Characteristics
Housing: Aluminum (1 mm)
Weight:
UC-7122: 190 g
UC-7124: 200 g
Dimensions: 77 x 111 x 26 mm (3.03 x 4.37 x 1.02 in)
Mounting: DIN-Rail, wall

Environmental Limits
Operating Temperature:
Standard Models: -10 to 60°C (14 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature:
Standard Models: -20 to 80°C (-4 to 176°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: 1 g @ IEC-68-2-6, sine wave (resonance search), 5-500 Hz, 1 Oct/min, 1 cycle, 13 min 17 sec per axis

Power Requirements
Input Voltage: 12 to 48 VDC
Power Consumption:

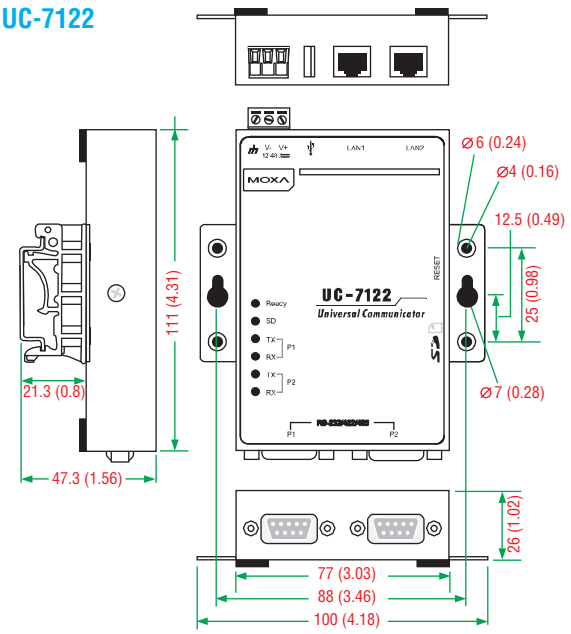
UC-7122: 4.1 W	UC-7124: 4.3 W
• 170 mA @ 24 VDC	• 180 mA @ 24 VDC
• 340 mA @ 12 VDC	• 360 mA @ 12 VDC

Standards and Certifications
Safety: UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1
EMC: EN 55022 Class A, EN 61000-3-2 Class A, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A
Green Product: RoHS, CRoHS, WEEE

Reliability
Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures):
UC-7122: 234,746 hrs
UC-7124: 210,233 hrs

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty
Note: The Hardware Specifications apply to the embedded computer unit itself, but not to accessories. In particular, the wide temperature specification does not apply to accessories such as the power adaptor and cables.

Dimensions
Unit: mm (inch)

UC-7122


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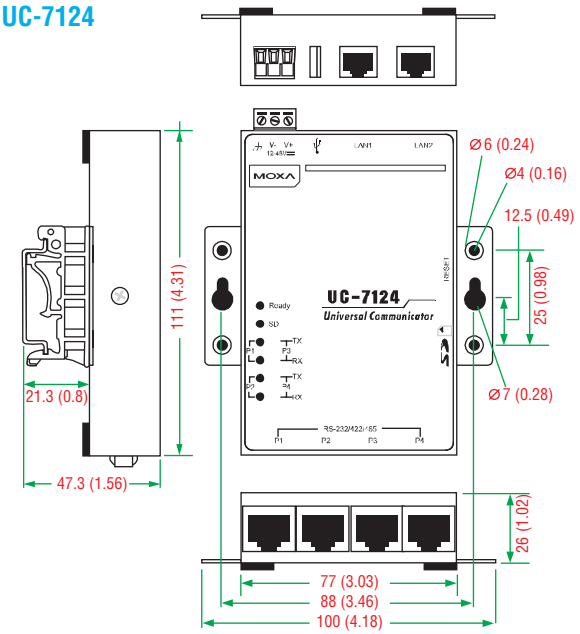
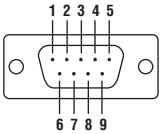


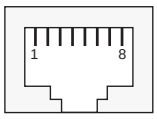
Pin Assignment

UC-7122 (DB9 male connector)



PIN	RS-232	RS-422/485-4w	RS-485-2w
1	DCD	TxD-(A)	–
2	RxD	TxD+(B)	–
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	–	–
7	RTS	–	–
8	CTS	–	–

UC-7124 (8-pin RJ45 connector)



PIN	RS-232	RS-422/485-4w	RS-485
1	DSR	–	–
2	RTS	TxD+	–
3	GND	GND	GND
4	TxD	TxD-	---
5	RxD	RxD+	Data+(B)
6	DCD	RxD-	Data-(A)
7	CTS	–	–
8	DTR	–	–

Software Specifications

Windows Embedded CE 5.0

OS: Windows Embedded CE 5.0
File System: FAT (for on-board flash)
Internet Protocol Suite: TCP, UDP, IPv4, SNMPv2, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SNTP, SMTP, Telnet, FTP, PPP
Web Server (WinCE IIS): Supports ASP, ISAPI Secure Socket Layer (SSL 2/3) and Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration ISAPI Extensions
Dial-up Networking: Supports RAS client API and PPP, Extensible Authentication Protocol (EAP), and RAS scripting
Watchdog: Features a hardware function to trigger system reset in a user specified time interval. (Moxa API provided)

Application Development Software:
- Moxa WinCE 5.0 SDK
- Moxa API Library
- C Libraries and Run-times
- Component Services (COM and DCOM)
- Microsoft® .NET Compact Framework 2.0 with SP2
- XML, including DOM, XQL, XPATH, XSLT, SAX, SAX2
- SOAP Toolkit
- Winsock 2.2

Ordering Information

Available Models

UC-7122-CE: Mini RISC-based embedded computer with 2 serial ports, dual LANs, SD, USB, WinCE 5.0, -10 to 60°C operating temperature
UC-7124-CE: Mini RISC-based embedded computer with 4 serial ports, dual LANs, SD, USB, WinCE 5.0, -10 to 60°C operating temperature
UC-7122-T-CE: Mini RISC-based embedded computer with 2 serial ports, dual LANs, SD, USB, WinCE 5.0, -40 to 75°C operating temperature
UC-7124-T-CE: Mini RISC-based embedded computer with 4 serial ports, dual LANs, SD, USB, WinCE 5.0, -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)

DK-35A: Mounting Kit for 35-mm DIN-Rail

Package Checklist

- UC-7122 or UC-7124 embedded computer
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-4PINDB9F-100: 4-pin pin header to DB9 female console port cable, 100 cm
- CBL-RJ45M9-150: 8 pin RJ45 to DB9 male serial port cable, 150 cm
- Universal power adaptor (including terminal block to power jack converter)
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

Model Name	Serial Ports	LAN Ports	Storage		OS		Wide Temp.
	RS-232/422/485	10/100 Mbps	SD	USB	CE 5.0	Linux	
UC-7122	2	2	✓	1	✓	–	✓
UC-7124	4	2	✓	1	✓	–	✓

IA260 Series

Award-winning Product
TAIWAN EXCELLENCE 2009

RISC-embedded computers with 4 serial ports, dual LANs, VGA, DIO, CompactFlash, USB

- Cirrus Logic EP9315 ARM9 CPU, 200 MHz
- 128 MB RAM on-board, 32 MB flash disk
- 4 software-selectable RS-232/422/485 serial ports
- VGA interface for field site monitoring
- Dual 10/100 Mbps Ethernet for network redundancy
- 8+8 DI/DO channels, up to 30 VDC
- 12 to 48 VDC power input design
- Supports CompactFlash and USB 2.0 hosts
- Ready-to-run Linux or WinCE 6.0 platform
- H-type heat dissipation design for system reliability
- -40 to 75°C wide operating temperature model available

Overview

The IA260 embedded computers come with 4 RS-232/422/485 serial ports, dual Ethernet ports, 8 digital input channels, 8 digital output channels, a VGA output, 2 USB hosts, and a CompactFlash socket. The computers are housed in a compact, IP40 protected, industrial-strength aluminum case.

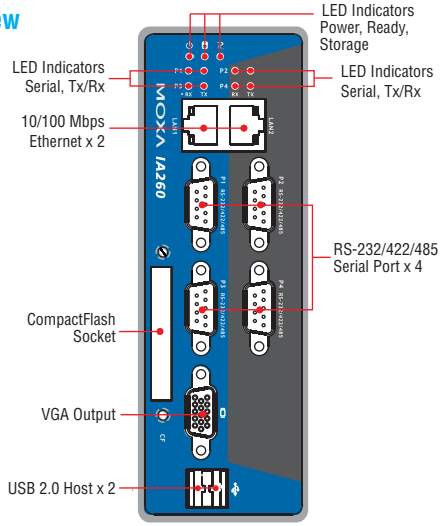
The IA260 computers use the Cirrus Logic EP9315 ARM9, 32-bit, 200 MHz RISC CPU. This powerful computing engine supports several useful communication functions, but will not generate too much heat. The built-in 32 MB NOR Flash ROM and 128 MB SDRAM give you enough memory to run your application software directly on the IA260.

The patented "H-Type" heat dissipation design makes the IA260 an ideal computing unit for applications in extremely hot field sites, since it can directly transmit heat from inside the housing to the air. With its built-in VGA output interface, the IA260 computers are suitable for use with SCADA systems in industrial applications, such as factory automation, production line process monitoring, and mining automation, that require VGA and HMI features.

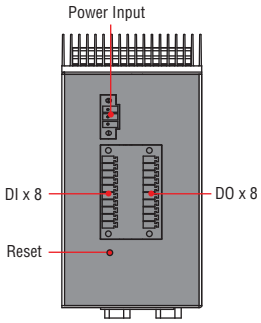
The IA260 computers support RS-232/422/485, digital I/O, and have dual LAN ports, making them ideal as communication platforms for industrial applications that require network redundancy. In addition to the standard model, a wide temperature (-40 to 75°C) model is available for use in harsh industrial automation environments.

Appearance

Front View



Top View



Hardware Specifications

Computer
CPU: Cirrus EP9315 ARM9 CPU, 200 MHz
OS (pre-installed): Windows CE 6.0 or Linux
DRAM: 128 MB onboard
Flash: 32 MB onboard
USB: USB 2.0 compliant hosts x 2, type A connector

Storage
Storage Expansion: CompactFlash slot

Display
Graphics Controller: EP9315 internal graphics accelerator engine with TTL graphical signal support
Display Memory: Dynamic video memory (shares system memory)
Display Interface: CRT interface for VGA output, DB15 female connector
Resolution: 1024 x 768, 8 bits

Ethernet Interface
LAN: 2 auto-sensing 10/100 Mbps ports (RJ45)
Magnetic Isolation Protection: 1.5 kV built-in

Serial Interface
Serial Standards: 4 RS-232/422/485 ports, software-selectable (DB9 male)
ESD Protection: 4 kV for all signals
Console Port: RS-232 (TxD, RxD, GND), 4-pin header output (115200, n, 8, 1)

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485
Baudrate: 50 bps to 921.6 kbps (supports non-standard baudrates; see user's manual for details)

Serial Signals
RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

Digital Input
Input Channels: 8, source type
Input Voltage: 0 to 30 VDC
Digital Input Levels for Dry Contacts:
• Logic level 0: Close to GND
• Logic level 1: Open
Digital Input Levels for Wet Contacts:
• Logic level 0: +3 V max.
• Logic level 1: +10 V to +30 V (COM to DI)
Connector Type: 10-pin screw terminal block (8 points, COM, GND)
Isolation: 3 kV optical isolation

Digital Output
Output Channels: 8, sink type
Output Current: Max. 200 mA per channel
On-state Voltage: 24 VDC nominal, open collector to 30 V
Connector Type: 9-pin screw terminal block
Isolation: 3 kV optical isolation

LEDs
System: Power, Ready, Storage
LAN: 10M/Link x 2, 100M/Link x 2 (on connector)
Serial: TxD x 4, RxD x 4

Switches and Buttons
Reset Button: Supports "Reset to Factory Default"

Physical Characteristics
Housing: Aluminum, industrial vertical form factor
Weight: 1 kg
Dimensions: 52 x 112.6 x 162 mm (2.05 x 4.43 x 6.38 in)
Mounting: DIN-Rail, wall

Environmental Limits
Operating Temperature:
Standard Models: -10 to 60°C (14 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature:
Standard Models: -20 to 80°C (-4 to 176°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: 2 g rms @ IEC-68-2-34, random wave, 5-500 Hz, 1 hr per axis
Anti-shock: 20 g @ IEC-68-2-27, half sine wave, 11 ms

Power Requirements
Input Voltage: 12 to 48 VDC (3-pin terminal block)
Power Consumption:
With no load on USB ports: 5.8 W
• 240 mA @ 24 VDC
• 480 mA @ 12 VDC
With full load on USB ports: 11 W
• 450 mA @ 24 VDC
• 900 mA @ 12 VDC

Standards and Certifications
Safety: UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1, CCC (GB4943, GB9254, GB17625.1)
EMC: EN 55022 Class A, EN 61000-3-2 Class A, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A
Green Product: RoHS, CRoHS, WEEE

Reliability
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures): 145,328 hrs

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty
Note: The Hardware Specifications apply to the embedded computer unit itself, but not to accessories. In particular, the wide temperature specification does not apply to accessories such as the power adaptor and cables.

Software Specifications

Linux

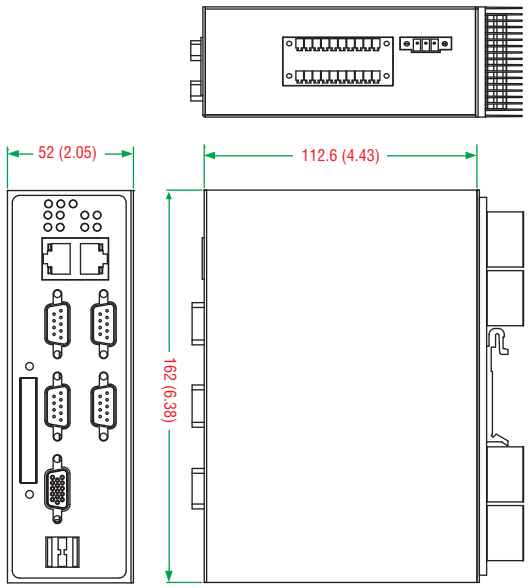
OS: Linux 2.6.23
File System: JFFS2, NFS, Ext2, Ext3
Internet Protocol Suite: TCP, UDP, IPv4, SNMPv1, ICMP, ARP, HTTP, CHAP, PAP, DHCP, NTP, NFS, SMTP, Telnet, FTP, TFTP, PPP, PPPoE
Internet Security: OpenVPN, iptables firewall
Web Server (Apache): Allows you to create and manage web sites
Terminal Server (SSH): Provides secure encrypted communications between two un-trusted hosts over an insecure network
Dial-up Networking: PPP Daemon for Linux that allows Unix machines to connect to the Internet through dialup lines, using the PPP protocol, as a PPP server or client. Works with 'chat', 'dip', and 'diald', among (many) others. Supports IP, TCP, UDP, and (for Linux) IPX (Novell).
Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)
Application Development Software:
• Moxa API Library (Watchdog timer, Moxa serial I/O control, Moxa DI/DO API)
• GNU C/C++ cross-compiler
• GNU C library
• GDB source-level debugging server
Software Protection: Encryption tool for user executable files (based on patented Moxa technology)

Windows Embedded CE 6.0

OS: Windows Embedded CE 6.0
File System: FAT (for on-board flash)
Internet Protocol Suite: TCP, UDP, IPv4, SNMPv2, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSL, DHCP, SNTP, SMTP, Telnet, FTP, PPP
Web Server (WinCE IIS): Supports ASP, ISAPI Secure Socket Layer (SSL 2/3) and Transport Layer Security (TLS/SSL 3.1) public key-based protocols, and Web Administration ISAPI Extensions
Dial-up Networking: Supports RAS client API and PPP, Extensible Authentication Protocol (EAP), and RAS scripting
File Server: Enables remote clients to access files and other resources over the network
Watchdog: Features a hardware function to trigger system reset in a user specified time interval. (Moxa API provided)
Application Development Software:
• Moxa WinCE 6.0 SDK
• Moxa API Library
• C Libraries and Run-times
• Component Services (COM and DCOM)
• Microsoft® .NET Compact Framework 2.0
• XML, including DOM, XQL, XPATH, XSLT, SAX, SAX2
• SOAP Toolkit Client
• Winsock 2.2

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

IA260-CE: RISC-based embedded computer with 4 serial ports, 8 DIs, 8 DOs, dual LANs, VGA, CompactFlash, USB, Win CE 6.0 OS, -10 to 60°C operating temperature
IA260-LX: RISC-based industrial embedded computer with 4 serial ports, 8 DIs, 8 DOs, dual LANs, VGA, CompactFlash, USB, Linux OS, -10 to 60°C operating temperature
IA260-T-CE: RISC-based embedded computer with 4 serial ports, 8 DIs, 8 DOs, dual LANs, VGA, CompactFlash, USB, Win CE 6.0 OS, -40 to 75°C operating temperature
IA260-T-LX: RISC-based industrial embedded computer with 4 serial ports, 8 DIs, 8 DOs, dual LANs, VGA, CompactFlash, USB, Linux OS, -40 to 75°C operating temperature

Package Checklist

- IA260 or IA260-T embedded computer
- Wall mounting kit
- DIN-Rail mounting kit
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-RJ45F9-150: 8-pin RJ45 to DB9 female console port cable, 150 cm
- CBL-RJ45M9-150: 8-pin RJ45 to DB9 male serial port cable, 150 cm
- Universal power adaptor
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card

IA240 Series

Award-winning Product
TAIWAN EXCELLENCE 2006

RISC-embedded computers with 4 serial ports, 4 DI and 4 DO channels, dual LANs, PCMCIA, SD

- MOXA ART 32-bit ARM9 industrial processor
- 64 MB RAM, 16 MB flash onboard
- 4 RS-232/422/485 serial ports
- 4 digital input and 4 digital output channels (TTL signal)
- Dual 10/100 Mbps Ethernet for network redundancy
- SD socket for storage expansion
- Ready-to-run Linux Kernel 2.6 platform
- Unique patented Software Encryption Lock
- Installation options: DIN-Rail, wall mount (with accessory)
- Robust, fanless design, IP30 protection mechanism
- -40 to 75°C wide temperature models available

Overview

The IA240 embedded computers are designed for industrial automation applications. The computers feature 4 RS-232/422/485 serial ports, dual LANs, 4 digital input channels, 4 digital output channels, and a PCMCIA cardbus and SD socket in a compact, IP30 protected, industrial-strength rugged housing.

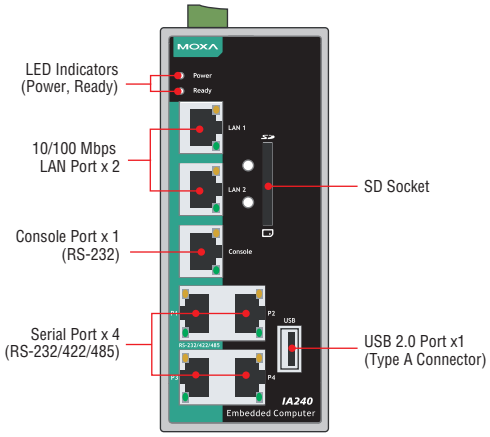
The IA240's vertical DIN-rail form factor makes it easy to install the computers in a small cabinet. This space-saving solution also facilitates easy wiring, making the IA240 a great choice as front-end embedded controllers for industrial applications.

Wide temperature models of the IA240 are also available. The IA240-T can operate reliably in a temperature range from -40 to 75°C, making them appropriate for harsh industrial automation environments.

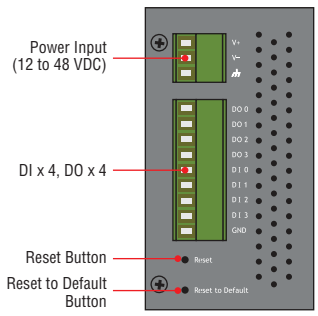
The industrial design of the IA240 provides a robust, reliable computing platform. Due to their RISC-based architecture, the IA240 computers will not generate a lot of heat, making them ideal for industrial automation environments.

Appearance

Front View



Top View



Hardware Specifications

Computer
CPU: MOXA ART ARM9 32-bit RISC CPU, 192 MHz
OS (pre-installed): Embedded Linux
DRAM: 64 MB onboard
Flash: 16 MB onboard
USB: USB 2.0 host

Storage
Storage Expansion: SD slot

Ethernet Interface
LAN: 2 auto-sensing 10/100 Mbps ports (RJ45)
Magnetic Isolation Protection: 1.5 kV built-in

Serial Interface
Serial Standards: 4 RS-232/422/485 ports, software-selectable (8-pin RJ45)
ESD Protection: 4 kV for all signals
Console Port: RS-232, RJ45 connector, supports PPP

Serial Communication Parameters
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, XON/XOFF, ADDC® (automatic data direction control) for RS-485
Baudrate: 50 bps to 921.6 kbps (supports non-standard baudrates; see user's manual for details)

Serial Signals
RS-232: TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485-4w: TxD+, TxD-, RxD+, RxD-, GND
RS-485-2w: Data+, Data-, GND

Digital Input
Input Channels: 4
Input Voltage:
Logic 0: 0-0.8 V
Logic 1: 2.0-5.5 V
Over-current Limit: -24 mA

Digital Output
Output Channels: 4
Output Current: 24 mA
Output Voltage:
Logic 0: 0-0.55 V
Logic 1: 2.5-3.3 V

LEDs
System: Power, Ready, Storage
LAN: 10M/Link x 2, 100M/Link x 2 (on connector)
Serial: TxD x 4, RxD x 4 (on connector)

Switches and Buttons
Reset Button: Supports "Reset to Factory Default"

Physical Characteristics
Housing: SECC sheet metal (1 mm)
Weight:
IA240: 430 g
Dimensions: 60 x 137 x 100 mm (2.36 x 5.39 x 3.94 in)
Mounting: DIN-Rail, wall

Environmental Limits
Operating Temperature:
Standard Models: -10 to 60°C (14 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature:
Standard Models: -20 to 80°C (-4 to 176°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Anti-vibration: 1 g @ IEC-68-2-6, sine wave (resonance search), 5-500 Hz, 1 Oct/min, 1 cycle, 13 mins 17 sec per axis

Power Requirements
Input Voltage: 12 to 48 VDC
Power Consumption: 7 W
• 300 mA @ 24 VDC
• 600 mA @ 12 VDC

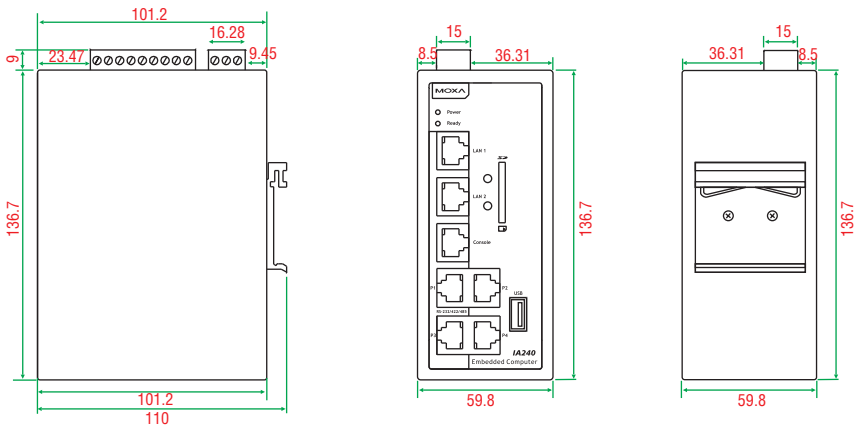
Standards and Certifications
Safety: UL 60950-1, CSA C22.2 No. 60950-1-03, EN 60950-1
EMC: EN 55022 Class A, EN 61000-3-2 Class A, EN 61000-3-3, EN 55024, FCC Part 15 Subpart B Class A
Green Product: RoHS, CRoHS, WEEE

Reliability
Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (mean time between failures):
IA240: 425,321 hrs
IA241: 306,453 hrs

Warranty
Warranty Period: 5 years
Details: See www.moxa.com/warranty
Note: The Hardware Specifications apply to the embedded computer unit itself, but not to accessories. In particular, the wide temperature specification does not apply to accessories such as the power adaptor and cables.

Dimensions

Unit: mm (inch)



Side View Front View Rear View

Software Specifications

Linux

OS: Linux 2.6.9
File System: JFFS2
Internet Protocol Suite: TCP, UDP, IPv4, SNMPv1, ICMP, ARP, HTTP, CHAP, PAP, DHCP, NTP, NFS, SMTP, Telnet, FTP, TFTP, PPP, PPPoE
Internet Security: OpenVPN, iptables firewall
Web Server (Apache): Allows you to create and manage web sites
Terminal Server (SSH): Provides secure encrypted communications between two un-trusted hosts over an insecure network
Dial-up Networking: PPP Daemon for Linux that allows Unix machines to connect to the Internet through dialup lines, using the PPP protocol, as a PPP server or client. Works with 'chat', 'dip', and 'diald', among (many) others. Supports IP, TCP, UDP, and (for Linux) IPX (Novell).
Watchdog: Features a hardware function to trigger system reset in a user specified time interval (Moxa API provided)
Application Development Software:
• Moxa API Library (Watchdog timer, Moxa serial I/O control, Moxa DI/DO API)
• GNU C/C++ cross-compiler
• GNU C library
• GDB source-level debugging server
Software Protection: Encryption tool for user executable files (based on patented Moxa technology)

Ordering Information

Available Models

IA240-LX: RISC-based industrial computer with 4 serial ports, 4 DIs and 4 DO channels, dual LANs, SD, Linux OS, -10 to 60°C operating temperature
IA240-T-LX: RISC-based industrial computer with 4 serial ports, 4 DIs and 4 DO channels, dual LANs, SD, Linux OS, -40 to 75°C operating temperature

Package Checklist

- IA240 or IA241 embedded computer
- Wall mounting kit
- Ethernet cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-RJ45F9-150: 8-pin RJ45 to DB9 female console port cable, 150 cm
- CBL-RJ45M9-150: 8-pin RJ45 to DB9 male serial port cable, 150 cm
- Universal power adaptor (including terminal block to power jack converter)
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card